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INTRODUCTION

As promoted in *A Curriculum Framework for Social Studies - Navigating the Future* (1993), geographic understandings, competencies and dispositions at the primary, elementary and intermediate levels of schooling are integrated into the social studies program. At the senior high level, students can subscribe for the first time to geography as a separate area of study. Students have the opportunity to select (1) a two-credit course in Canadian Geography as part of the two-credit requirement in Canadian Studies, and (2) a two-credit course in World Geography to fulfil the two-credit requirement in World Studies. Canadian Geography 1202 is designed to meet the two-credit Canadian Studies requirement. Students who enrol in this course bring with them prerequisite understandings and competencies as a result of social studies experiences in the primary, elementary and intermediate grades. The intellectual maturity of senior high school students enhances their ability to examine the geography of Canada comprehensively.

Chapter 1 of this curriculum guide traces the development of geography as a discipline, how a course in Canadian geography relates to the overall purpose of social studies education. Chapter 2 presents the general curriculum outcomes that emanate from this statement of purpose. Chapter 3 specifies the understandings component of the general curriculum outcomes in terms of specific curriculum outcomes and performance expectations, and comments upon the instructional implications that the performance expectations have for instruction. Chapters 4 and 5 examine instructional approaches, evaluation for product and process, a specification of the learning outcomes on a taxonomy of thinking skills, and their suggested weightings on for examination purposes. The curriculum guide concludes with a list of professional and student resources.



Chapter 1

Canadian Geography and the Social Studies Program

1.1 Geography as a Discipline

The term geography, as defined in its original context by the Greeks, reflected a locational and descriptive compendium of details about the earth as a habitat for humans. This "encyclopedic" approach is reflected in Strabo's regional descriptions (c. 64 BC - AD 21); Ptolemy's mathematical calculations and studies of the world sphere (c. AD 90 - 168); Marco Polo's accounts of his travels to China in 1271; Columbus' (1492-1498), Vasco da Gama's (1497-1499), and Magellan's accounts of their "discoveries" of the new world; and Varenus' (*Geographica Generalis*, 1650) and Salmon's (*Salmon's Geographical and Astronomical Grammar*, 1785) collections of geographic information.

Immanuel Kant (1724-1804) brought a more systematized approach to geographic inquiry. His interest was in the examination of the grounds of geographical knowledge and how this knowledge may be classified. He distinguished between geography as empirical knowledge (i.e., knowledge through experience) and geography as *a priori* knowledge (i.e., knowledge through reason). Kant's main contribution was not in terms of adding to the accumulation of geographical description available up to his time, but in examining the nature of geographical knowledge as a basis for systematizing and classifying it (Graves, 1975).

Alexander von Humboldt (1769-1859) and Karl Ritter (1779-1859) laid the foundation for a more modern approach in terms of the philosophy and methodology of geography. Humboldt was primarily interested in how differences in phenomena help to establish distinctive areas on the earth's surface (i.e., areal differentiation); and in how observable phenomena are associated and inter-connected (i.e., spatial interaction). Ritter, on the other hand, set out to describe how detailed phenomena in particular regions were associated (i.e., areal association).

The search for coherence and cause-and-effect relationships in geographical investigation became influenced by Darwinian thought during the late 19th century. More specifically, geographers began to search for evidence to support the notion that the "nature of human activity was controlled by the parameters of the physical world in which it was set" (Johnson, 1987, p. 36). One of the more well-known environmental determinists, Friedrich Ratzel (1844-1904), proposed that

... human beings as individuals or as members of societies have to submit to certain pressures from the physical environment, and to modify their behaviour accordingly (Graves, 1975, pp. 20-21).

Eventually this concept became regarded as grounds for the view that geography is the study of how the physical environment **determines** human activities.

In time, the environmental determinist notions were regarded as too extreme and simplistic in their explanation of the underlying causes of human activity. French geographers at the turn of the century led the way in advocating the view of possibilism-- the notion that human culture is a major influence that helps humans to be active rather than passive agents (Johnson, 1987). More specifically, possibilism holds that

... any physical environment offered a number of possibilities for development or for living, but that what in fact evolved was as much a factor of man's culture as of his environment. The physical environment in no way dictated how man must live in a given area (Graves, 1975, p. 24).

For much of the first half of the twentieth century, British and American geographers attempted to avoid either position by synthesizing elements of each to explain areal differentiation. On a global scale, for example, elements of climate and vegetation may be associated to delineate natural regions. Within

each region, the landscape becomes altered and developed by the activities of successive generations of people. This approach assumes that the region is formal (e.g., a climate region) or informal (e.g., an urban region). Traditional regional studies consisted of such elements as physical features, climate, vegetation, farming, industries, and population (Freeman, 1961).

Geographical inquiry during the last half of the twentieth century shifted somewhat from the regional paradigm for two major reasons. Regional approaches often result in a weary description of natural and human phenomena. Second, the assumption that the whole of the earth's surface can be divided into distinct regions is open to question. Recently, geographers approach the discipline more as a social science that searches for patterns or law-like statements that "capture" the spatial arrangement of significant features on the surface of the earth. Although geography as a spatial science still remains buoyant to the present, regionalism has never been completely replaced (Johnson, 1987).

In 1982, a consortium of professional geographers and teachers in the United States collaborated to develop five fundamental and inter-related themes to lend structure to the study of geography (Joint Committee for Geographic Education, 1984). These themes are outlined below as follows:

1. Location

Geographic education helps the learner to know how to determine and describe the absolute location (e.g., grid coordinates, street location) and relative location (e.g., The stock exchange is located in the city's central district next to city hall). Equally as important, the individual is encouraged to discover factors or conditions that account for the location of phenomena.

2. **Place**

A location takes on the character of place when meaning is given to natural and human phenomena occurring there. Each place has a character that is expressed by such features as patterns, differences, similarities, sequence, and connections. Geographers are concerned both with identifying these features and the processes underlying them. For example, a dominant feature of the cultural landscape along the St. Lawrence River is the long-lot survey system. The examination of place in this context would have to account for the combined influence of landforms, political structures, and economic activities during the French colonial period.

3. **Interaction**

This theme attempts to reconcile environmental determinism and possibilism. Basically, it holds that the environment helps shape human activity since it provides a range of possibilities for humans to satisfy needs and wants. The choice(s) made is also a function of such influences as cultural preferences, political structures, and historical antecedents. This principle is illustrated when one examines how human activity on Asian grasslands contrasts with that on North American grasslands.

At the same time, interaction is felt in the opposite direction. Human activity leaves its impact on the land. This feature is currently the basis for geographical inquiry that examines the impact of resource utilization upon ecosystems.

4. **Movement**

Natural and human systems are fluid rather than static. A given place is what it is as a result of the movement of energy, goods, services, ideas, and people to and from other places. Geographers are interested in finding patterns that help describe this exchange and factors that cause them.

5. **Region**

In geographic terms, a region is an area in which significant characteristics relate to each other (i.e., areal association) to make it unique and definable from other areas (i.e., areal differentiation). These characteristics may be natural (i.e., geomorphic, climatic, or biotic) or human (e.g., economic, political, or cultural). A natural region may be described as formal, and a human-made region as informal.

1.2 The Contribution of Geography to Social Studies Education

A Framework for Social Studies Education - Navigating the Future (1993) describes social studies as a program area that derives its content and methods of inquiry from the social sciences, humanities, and the pure sciences in order to explore human interactions, spatially and temporally, and how they effect and are affected by the physical and cultural environment. The overall two-fold purpose of social studies is education for personal development and citizenship competencies. Personal development relates to such qualities as an inquiring mind, self-confidence, honesty, empathy, individual and group identity, and an appreciation for justice. These qualities enhance growth in citizenship, as manifested in the individual who is adaptable to change, analyzes public issues, makes independent judgements, engages in democratic processes to resolve social problems, and respects what is good in our contemporary culture.

Social studies, then, provides for the development of those understandings, competencies, and dispositions which will predispose the individual to engage in desirable participatory citizenship. As it is interpreted in the *Framework*, participatory citizenship implies an active role in issues of public concern, whether they be of local, national, or international importance. Geography has a contribution to make in equipping the individual with the understandings, competencies, and dispositions vital for such a role. Geography is not deemed to be worthwhile solely in terms of its intrinsic worth but in terms of its instrumental value in the long-term goal of developing the person-citizen.

First, geographic education provides unique opportunities for the student to develop conceptual frameworks or perspectives of the contemporary world. These frameworks, according to Harper (1992), relate to the earth environment, human use of it, similarities and differences in the earth environment, differences in human capacity to use the environment, and human interactions at a variety of scales -- community, regional, national, continental, and global levels.

More specifically, a geographical study of Canada contributes to an understanding of the composite of the physical, economic, and cultural features of Canada. There are interrelated basic features which hold consequences for the way Canadians live. These fundamental features may be expressed as follows:

- . Canada is a vast, physically diverse, and northern country.
- . Canada has a vast storehouse of resources for the responsible use of Canadians.
- . Canada is an industrialized, technological, multi-cultural and urbanized society in economic transition.
- . Canadians interrelate to each other and to the world through a complex web of linkages.

Second, students are encouraged to use selected competencies to formulate meaningful and relevant conceptual frameworks within these themes. Since our modern society is characterized by rapid change, low-order information quickly becomes dated; conceptual frameworks, however, have greater transferability to new situations. According to Libbee (1988), geographic education today recognizes the need for a balance between knowing about geographical content and using it to analyze contemporary issues. Accordingly, such content formats as case studies, field observations, and primary resources can be used to facilitate problem-solving and decision-making, analyzing how local, national, and global trends affect real individuals or groups, and examining issues from alternative perspectives. In this approach, the learner not only becomes knowledgeable about a geographical phenomenon or issue, but also asks what can be done about it.

Canadian Geography 1202 will enable the student to examine and reflect upon the spatial organization of relationships between Canadians with their diverse northern environment and the world community.

1.3 The Atlantic Canada Framework for Essential Graduation Learnings.

The Essential Graduation Learnings (ESLs) describe the knowledge, skills, and attitudes expected of all graduating students in Atlantic Canada as they prepare to become life-long learners. Any curriculum must receive its mandate from and, at the same time, reflect the spirit of this framework. The following samples the relationship between Canadian Geography 1202 and the Essential Graduation Learnings.

Citizenship

Graduates will be able to assess social, cultural, economic and environmental interdependence in a local and global context.

Canadian Geography 1202 promotes an understanding of and the need for sustainable approaches to use of our resources, an appreciation of the interconnectedness of Canada and the world economy, and a knowledge of how all regional systems form part of a greater global system.

Communication

Graduates will be able to use the listening, viewing, speaking, reading, and writing modes of language(s), and mathematical and scientific concepts and symbols, to think, learn and communicate effectively.

The competencies promoted in Canadian Geography 1202 include the use of appropriate visual, verbal and written formats as a way of exploring, reflecting on, and presenting findings based on geographic data.

Personal Development

Graduates will be able to continue to learn and to pursue an active, healthy lifestyle.

Canadian Geography 1202 promotes both independent work and group interactions in making decisions related to geographic issues in the Canadian context. This approach promotes the need for students to exercise individual responsibility for resolving issues and, at the same time, demonstrate a willingness to seek consensus.

Problem Solving

Graduates will be able to use the strategies and processes needed to solve a wide variety of problems, including those requiring language, and mathematical and scientific concepts.

This Essential Graduation Learning is a major focus of Canadian Geography 1202. The information presented in this course is designed to culminate in opportunities for students to be exposed to issues and problems related to the Canadian environment, resources, economy, demographics, settlement, linkages, and globalism. The use of case studies, field observations, and primary sources will promote hypotheses to be tested, findings to be extrapolated, and multi-perspectives to be explored.

Technological Competence

Graduates will be able to use a variety of technologies, demonstrate an understanding of technological applications, and apply appropriate technologies for solving problems.

In Canadian Geography 1202, all of the information that students require will not be delivered in a complete “package” such as a prescribed student text. The achievement of many outcomes will require access to other resources, particularly those in electronic formats. Accordingly, students in this course will have opportunities to use CD-ROMS and to access Internet sites. These experiences not only promote the location, evaluation, adaptation, creation, and sharing of information, but also develop confidence in the use of technology as a learning tool.

Spiritual and Moral Development

Graduates will demonstrate understanding and appreciation for the place of belief systems in shaping the development of moral values and ethical conduct.

Many religions regard the universe around us as the creation of a Supreme Being. The complexity of the systems which constitute this creation, its beauty and order, and self-sustaining nature reveals an all-knowing and loving Creator. Furthermore, some would argue that the way in which humans interact with the creation (e.g., environmental renewal, use of resources) reflects their view of the Creator. More specifically, if the physical world manifests the power and beauty of God, why should one diminish these qualities by over-exploiting resources and abusing the environment.

Canadian Geography 1202, then, contributes to the spiritual and moral development of the learner by providing some of the knowledge essential to his/her evolving worldview. In turn, this worldview will contain the belief systems which will shape moral values and ethical conduct.

Chapter 2

General Curriculum Outcomes

2.1 Understandings

The student will demonstrate an understanding of:

- 2.1.1 Basic patterns of land and water forms which comprise the landscape of Canada.
- 2.1.2 Elements of weather and climate and how they account for diverse climate patterns in Canada.
- 2.1.3 Natural interrelationships in selected Canadian ecosystems and how they are typical of a northern environment.
- 2.1.4 Activities and issues related to how Canadians use resources on the land.
- 2.1.5 Activities and issues related to how Canadians use resources in the ocean environment.
- 2.1.6 Patterns in the secondary processing of primary resources in Canada.
- 2.1.7 Processes which account for the increasing importance of the tertiary sector to Canadians.
- 2.1.8 Significant trends in the distribution, growth and composition of Canada's diverse population.
- 2.1.9 Conditions which influence the development and viability of built environments in Canada.
- 2.1.10 Linkage networks and how they are fundamental in moving people, goods, and information in Canada's vast environment.
- 2.1.11 Aspects of Canada's increasing interdependence in the world community.

2.2 Competencies

The student will demonstrate competencies in:

- 2.2.1 Retrieving information from a variety of information-access tools, such as maps, globes, databases, newspapers, periodicals, videotapes, and graphics.
- 2.2.2 Gathering primary geographic data through use of appropriate techniques such as interviews, field observation, sampling, and enumerating.
- 2.2.3 Convergent and divergent thinking to develop spatial and temporal patterns in geographic phenomena.
- 2.2.4 Developing rational positions and decisions essential to solving geographical problems.
- 2.2.5 Interacting in group contexts which positively contribute to the quality of the learning task.
- 2.2.6 Organizing information according to an acceptable format.
- 2.2.7 Using appropriate visual, verbal, and written formats to communicate findings.

2.3 Dispositions

The student will demonstrate an appreciation of:

- 2.3.1 The role of informed and rational discussion in arriving at decisions and generalizations.
- 2.3.2 The importance of gathering, organizing, and presenting reliable information in ways appropriate to an assigned task.
- 2.3.3 The importance of mutual respect, tolerance, empathy, justice, and other procedural values in resolving geographical issues.
- 2.3.4 The complex and delicate web of interrelationships among nonliving and living systems on the earth.
- 2.3.5 The need to temper individual and societal aspirations in terms of the ability of the earth to meet basic needs and wants.
- 2.3.6 The importance of utilizing the environment according to sound principles of stewardship.
- 2.3.7 The impact and complexity of global interdependence.
- 2.3.8 The contribution of geography to the development of a realistic and integrated perspective on the world.

Chapter 3
Course Content

3.1 Course Structure

This section classifies the understandings in section 2.1 according to organizational themes and then specifies the content relating to each understanding.

The understandings promoted in Canadian Geography 1202 may be grouped according to four themes:

The Natural Environment (Understandings 2.1.1, 2.1.2, and 2.1.3)

The student of Canadian Geography 1202 will examine the vast, physically diverse, and northern character of Canada. These characteristics have an impact upon life in Canada, whether it is felt in the types of land activities which are carried on, or reflected in the distribution of population.

Natural Resources (Understandings 2.1.4 and 2.1.5)

Canada has a vast storehouse of resources for the responsible use of Canadians. These resources are neither limitless nor evenly distributed, however, and what is a resource depends upon the needs and wants of Canadians, their attitudes, and the types of extractive technologies available. Resource utilization requires responsible but difficult choices since they affect the quality of life of Canadians.

The New Economy (Understandings 2.1.6, 2.1.7, 2.1.8, and 2.1.9)

Canada, like any other developed nation, has experienced a series of economic evolutions. Early in its development, Canada's economy was primarily driven by the extraction of cheap resources, to be replaced during this century by the processing of resources through the use of cheap energy. Given recent economic restructuring, Canada's economy is becoming more service-oriented. In

response to the need for the immediate access to knowledge, the economy is now driven by the rapid exchange of information and the production of technologies related to it. This trend has an impact on life in Canada, whether it is where Canadians live, or the quality of life of our cities, towns and villages.

Connections (Understandings 2.1.10 and 2.1.11)

Given Canada's vastness and the economic shift toward knowledge-based activity, the rapid movement of people, goods, and information is fundamental to the country's economic health. Modern linkages are beginning to minimize the impact of distance and location as they make it possible for Canadians to interact with each other quickly and effectively. Canadians also recognize that modern linkages make Canada a part of a complex and interconnected world community. More than ever, Canada is subject to international economic, political and cultural influences, and yet has its own contribution to make to the well-being of other countries.

Students enrolled in Canadian Geography 1202 will be expected to complete the following number of course understandings:

Theme	Number of Understandings to be Completed
The Natural Environment	3
Natural Resources	1
The New Economy	2
Connections	<u>1</u>
Total	7

In the content articulation in section 3.2, themes and related understandings are identified. Each understanding is then expressed in terms of specific curriculum outcomes and performance expectations. Together, the specific curriculum outcomes are considered to be the conceptual framework necessary to specify and amplify the understanding with which they are associated. The performance expectations indicate whether the student has acquired and can use the concept imbedded in the related specific curriculum outcome.

The performance expectations, taken as a whole, not only promote the understandings, but also the competency and dispositional goals articulated in sections 2.2 and 2.3 respectively. These performance expectations are deliberately constructed so that a skill or performance becomes the medium by which the student demonstrates a facility with both an understanding or development of a disposition. As well, the performance expectations are specified in terms of a reasonable balance of skills -- from acquiring basic information (knowing), to using this information in new situations (applying), to critically and reflectively processing the information (integrating).

The following example will help clarify these points. According to the specific curriculum outcome 9.5, urban land use reflects discernible spatial patterns. In working with this outcome, the student will acquire and manipulate some basic knowledge by recalling definitions (e.g., PEs 9.5.1, 9.5.4, 9.5.7, and 9.5.10) and information (e.g., PEs 9.5.5 and 9.5.8). These types of PEs require very basic thinking skills and are classified as "knowing". By examining maps, photos and a case study, students are given an opportunity to apply basic concepts to arrive at spatial patterns in urban land use (e.g., PEs 9.5.3, 9.5.9, and 9.5.12); hence the classification "applying". The student is then asked to respond affectively by surveying recreational land uses in the local area, deciding how these uses may be promoted, and judging which other recreational activities may be needed (e.g., PE 9.5.11).

3.2 Specific Curriculum Outcomes and Performance Expectations

Theme: The Natural Environment

Understanding (2.1.1): Basic patterns of land and water forms which comprise the landscape of Canada.

Specific Curriculum Outcome 1.1:

Students will identify aspects of Canada's northern location.

Performance Expectations

Students will:

- 1.1.1 Define the term relative location. (k)
- 1.1.2 Using an air photo, describe the relative location of a cultural feature (e.g., your school) and a physical feature (e.g., a hill). (a)
- 1.1.3 Using a world map or globe, describe Canada's location in terms of (a)
 - . oceans which border it
 - . countries which serve as its neighbours
 - . the prime meridian
 - . the North Pole
- 1.1.4 Using a globe, estimate how much of Canada's landmass is north of (k)
 - . 50° N lat.
 - . 60° N lat.
 - . 70° N lat.
- 1.1.5 Define the terms latitude and longitude. (k)
- 1.1.6 Define the term absolute location. (k)
- 1.1.7 Using a topographic map, determine the absolute location of a cultural feature and a physical feature by means of a six-figure coordinate system. (k)
- 1.1.8 Using a gazetteer or a map, determine the absolute location of the capital cities of Canada. (k)
- 1.1.9 Using a standard location system in Canada (e.g., postal codes, or telephone area codes), identify the location of a given community. (a)

Theme: The Natural Environment

Understanding (2.1.1): Basic patterns of land and water forms which comprise the landscape of Canada.

Specific Curriculum Outcome 1.2:
Students will examine Canada's area and size.

Performance Expectations

Students will:

- 1.2.1 Using a globe, rank the five largest countries by land areas. (k)
- 1.2.2 Using a computer data base or a print resource, develop a table to test the pattern reflected in item 1.2.1. (a)
- 1.2.3 Define the term scale. (k)
- 1.2.4 Define the term time zone. (k)
- 1.2.5 Explain why a time zones system is needed. (k)
- 1.2.6 Given a time zones map and the departure time and duration of an airline flight, determine the arrival time (local). (a)
- 1.2.7 Contrast physical distance and time distance. (k)
- 1.2.8 Describe the physical and time distance in a journey from your home to a site of your choice (e.g., video arcade, school). (a)
- 1.2.9 Select three Canadian cities which you would like to visit, and complete the following chart. (a)

* For time distance, add total travel time for the different transportation modes you would use.
- 1.2.10 Given a table showing decreasing time distances resulting from the use of improved communications technology (e.g., decreases in telephone connection time during the past 60 years), write a statement to describe the pattern shown. (a)

Theme: The Natural Environment

Understanding (2.1.1): Basic patterns of land and water forms which comprise the landscape of Canada.

Specific Curriculum Outcome 1.3:
Students will describe Canada's diversity of landform regions.

Performance Expectations

Students will:

- 1.3.1 Define the term igneous. (k)
- 1.3.2 Define the term metamorphic. (k)
- 1.3.3 Describe how mineral deposits form. (k)
- 1.3.4 Using an air photo or a topographic map, describe the typical landscape of the Canadian Shield. (a)
- 1.3.5 Using a map showing the physical regions of Canada, identify the provinces which share the Canadian Shield. (k)
- 1.3.6 Define the term sedimentary. (k)
- 1.3.7 Describe how the Interior Plains were formed. (k)
- 1.3.8 Using a map showing the physical regions of Canada, identify the provinces which share the Interior Plains. (k)
- 1.3.9 Define the term faulting. (k)
- 1.3.10 Given an illustrated diagram, briefly describe the process of faulting. (a)
- 1.3.11 Describe how the Great Lakes-St. Lawrence Lowlands were formed. (k)
- 1.3.12 Using a map showing the physical regions of Canada, identify the provinces which share the Great Lakes-St. Lawrence Lowlands. (k)

- 1.3.13 Define the term folding. (k)
- 1.3.14 Given an illustrated diagram, briefly describe the process of folding. (a)
- 1.3.15 Describe how the Western Cordillera were formed. (k)
- 1.3.16 Contrast the Appalachian Mountains with the Western Cordillera. (k)
- 1.3.17 Using a map showing the physical regions of Canada, identify the provinces which share the Appalachian Mountains and Western Cordillera regions. (k)

Theme: The Natural Environment

Understanding (2.1.1): Basic patterns of land and water forms which comprise the landscape of Canada.

Specific Curriculum Outcome 1.4:
Students will describe major landforms and water forms in Canada

Performance Expectations

Students will:

- 1.4.1 Distinguish between mountain and hill. (k)
- 1.4.2 Distinguish between plain and plateau. (k)
- 1.4.3 On an air photo or a topographic map, identify each of the four major landforms.(a)
- 1.4.4 Given two photos of mountain systems, identify the oldest mountains. Explain choice. (a)
- 1.4.5 Using a topographic map, construct a profile of land forms along a given line of direction. (a)
- 1.4.6 Distinguish among the terms bay, gulf, and strait. (k)
- 1.4.7 Define the terms tributary and delta. (k)
- 1.4.8 On a map, identify the four major drainage basins (with their major rivers and lakes) in Canada. (k)
- 1.4.9 Using a map, describe the factors which determine the limits of a given drainage basin. (a)
- 1.4.10 With the aid of a diagram or a three dimensional model, describe the stages in the life cycle of a river. (a)
- 1.4.11 Using a physical features map, describe each of the major landforms and water forms for a given region of Canada. (a)

Theme: The Natural Environment

Understanding (2.1.1): Basic patterns of land and water forms which comprise the landscape of Canada.

Specific Curriculum Outcome 1.5:

Students will reflect upon selected human responses to land and water forms.

Performance Expectations

Students will:

- 1.5.1 Briefly describe how the resources of the Canadian Shield influence the kind of economic activity carried on there. (a)
- 1.5.2 Explain why there is an absence of oil and gas activity on the Canadian Shield. (a)
- 1.5.3 Use an atlas and locate the number of major cities (population over 100,000) found in the Interior Plains. Give reasons for this pattern. (a)
- 1.5.4 Explain why large deposits of potash are located on the Interior Plains. (k)
- 1.5.5 Analyze a series of photos depicting types of land use in Canada. For example, the photos could relate to a mine in a hilly area, farming in a lowland area, deep sea fishing, or a hydro-electric generating station on a riversite. Complete the following chart to show that primary activity is shaped to a large extent by the nature of the physical environment. (a)

Photo	Type of Landscape	Land Use Activity	How Landscape Affects Human Activity

- 1.5.6 Examine a road system for a given area. Using a topographic map or air photo, determine how the system was influenced by the nature of the terrain. (a)

- 1.5.7 Given an account of an individual who moved from central Canada to an island community in a coastal area, describe the effect of the move on his or her lifestyle (e.g., transportation, recreational activities). (a)
- 1.5.8 Assume the role of an individual who is living in an area which geologists claim could be subject to severe folding or faulting activity. Develop a newspaper article describing the probable impact of an earthquake on the local community. (i)
- 1.5.9 Assume the role of an early explorer or missionary travelling 500 km from the coast to the interior: (i)
- . Research a published account (e.g., a diary) of an explorer or missionary who used an inland water route to explore a region of Canada.
 - . Describe which tools, equipment and skills were essential for the trek.
 - . Reflect upon whether people today have these skills.
 - . Compare the difficulty of the trek with a similar trip today.
- 1.5.10 Assume the role of an investor who wishes to establish a recreation resort. Using a topographic map, select a site which (i)
- . can be developed as a ski slope for winter use, and
 - . can be developed as a site for water sports for summer use.

Theme: The Natural Environment

Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.1:

Students will identify the basic elements which make up weather and climate patterns.

Performance Expectations

Students will:

- 2.1.1 Define the term weather. (k)
- 2.1.2 Define the term climate. (k)
- 2.1.3 Given a satellite image of an area (e.g., the eastern seaboard of North America) and date of observation, (a)
 - . determine the absolute location of the hurricane centre;
 - . describe its relative location;
 - . select a location and describe the probable weather conditions; and
 - . explain the advantage of satellite images over local radar for observing such a storm.
- 2.1.4 Given a series of statements, identify those which relate to weather and those which relate to climate. (k)

- 2.1.5 Collect climate data for the local community and three other communities across Canada. (a)
- . Record the data in the chart shown on page 27.
 - . Examine the data to see if each of the following statements is valid:
 - Coastal communities tend to have high temperature ranges.
 - Communities in the Far North tend to have high levels of precipitation.
 - Locations with hot summers tend to have high average annual temperatures.
- 2.1.6 Describe the conditions which give rise to convectional rainfall. (k)
- 2.1.7 Describe the conditions which give rise to frontal rainfall. (k)
- 2.1.8 Identify the type of rainfall most commonly experienced in the local area. (a)
- 2.1.9 Based on data gathered in item 2.1.5, describe the typical climate pattern in the local area. (a)

Community	MONTH													
	J	F	M	A	M	J	J	A	S	O	N	D		
a														°C mm
b														°C mm
c														°C mm
d														°C mm

Theme: The Natural Environment

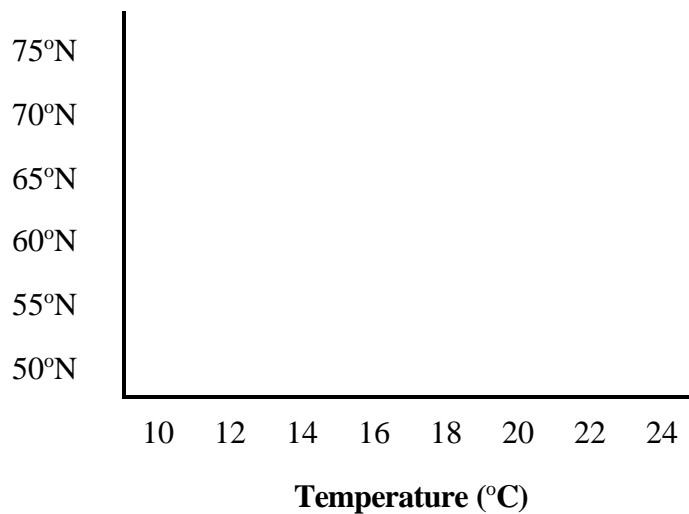
Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.2:
Students will relate differences in temperature to latitudinal location.

Performance Expectations

Students will:

2.2.1 Analyze a table of average monthly temperatures (for July) for selected stations in Canada. Use the grid given below to construct a scattergram to relate temperatures and latitudinal location.



Describe the general pattern of temperatures from south to north. (a)

2.2.3 Given a diagram, explain how the earth's shape affects the amount of solar radiation a given location receives. (a)

2.2.4 Given a map displaying the distribution of temperatures for January and July, determine the validity of the following statements: (a)

. Temperatures get colder as one goes from north to south.

- . The difference between winter and summer temperatures in high latitudes is greater than that in the middle latitudes.

Theme: The Natural Environment

Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.3:
Students will analyze how wind systems affect climate in Canada.

Performance Expectations

Students will:

- 2.3.1 Define the terms wind and prevailing winds. (k)
- 2.3.2 Given air temperatures above the sea and above the land, predict the wind direction. (a)
- 2.3.3 Describe the conditions which affect wind direction. (k)
- 2.3.4 Given a diagram displaying a generalized pattern of prevailing winds, identify the wind systems which affect climate in Canada. (k)
- 2.3.5 Over an extended period for the local area, keep a record of wind direction and related weather conditions. Briefly describe the effect of winds on weather conditions in the local area. (a)
- 2.3.6 Define the term wind-chill. (k)
- 2.3.7 Using a graph showing the wind-chill values as a result of the combined effect of wind and temperature, determine the potential wind-chill effect if an individual were travelling on a snow machine at a given speed and at a given temperature (e.g., 40 km at a temperature of -20°C). (a)

Theme: The Natural Environment

Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.4:

Students will examine the influence of ocean currents on climate in Canada.

Performance Expectations

Students will:

- 2.4.1 Define the term ocean current. (k)
- 2.4.2 Given a world map of currents, identify the ocean currents which affect the climate of Canada. (k)
- 2.4.3 With reference to a world map of ocean currents, describe the conditions which give rise to ocean currents. (a)
- 2.4.4 Given a world map of ocean currents and the climographs for two coastal locations on the same latitude in Canada (e.g., Prince Rupert and Rigolet), briefly describe how the difference in temperatures reflects the influence of ocean currents. (a)

Theme: The Natural Environment

Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.5:
Students will analyze the relationship between elevation and climate

Performance Expectations

Students will:

- 2.5.1 Define the term elevation. (k)
- 2.5.2 Given a table showing temperatures at different elevations on generally the same latitude, explain how elevation affects temperature. (a)
- 2.5.3 Briefly explain why an increase in elevation results in a decrease in temperature. (k)
- 2.5.4 Define the terms rainshadow. (k)
- 2.5.5 Define the terms windward and leeward. (k)
- 2.5.6 Given a set of rainfall statistics for a location on the windward side of a mountain system (e.g., the Rocky Mountains) and a location on the leeward side, briefly compare the rainfall conditions. (k)
- 2.5.7 Briefly describe the conditions which result in orographic rainfall. (k)
- 2.5.8 Describe how mountains may act as a barrier to influence climate patterns. (a)

Theme: The Natural Environment

Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.6:
Students will relate Canada's climate to the country's size.

Performance Expectations

Students will:

- 2.6.1 Define the term temperature range. (k)
- 2.6.2 Given a set of temperature statistics for a location in Canada, calculate the temperature range. (k)
- 2.6.3 Explain how land and water differ in their ability to retain heat. (k)
- 2.6.4 Given a table showing the July temperatures for selected stations in Canada (generally on the same latitude) and the distance from the sea, describe how distance from the sea influences temperatures.
(a)

Theme: The Natural Environment

Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.7:
Students will describe general climate patterns in Canada.

Performance Expectations

Students will:

- 2.7.1 Given a climograph, briefly describe the climate portrayed. (a)
- 2.7.2 Describe the features of a continental climate. (k)
- 2.7.3 Describe the features of a maritime climate. (k)
- 2.7.4 Given a series of climographs, determine which is a continental or maritime location. Explain. (a)
- 2.7.5 Identify the factors which most affect the climate of the local area. (a)
- 2.7.6 Given a simplified weather map of Canada, predict the conditions which are likely to be experienced at a given location. (a)

Theme: The Natural Environment

Understanding (2.1.2): Elements of weather and climate and how they account for diverse patterns in Canada.

Specific Curriculum Outcome 2.8:

Students will reflect upon how weather and climate conditions influence human activity.

Performance Expectations

Students will:

- 2.8.1 Given a case study of a farm operation in Canada (e.g., fruit farming, wheat farming), relate the sequence of farming activities to the occurrence of climate conditions. (a)
- 2.8.2 Examine a travel brochure for a recreational site in Canada. Describe the degree to which climate is promoted as a positive feature of the area. (a)
- 2.8.3 Analyze a newspaper article about a weather-related disaster. Determine the human effects of the disaster (e.g., deaths, injuries, property damage). (a)
- 2.8.4 Analyze a poem or song in which references are made to weather or climate. Briefly describe the sound devices and figurative language used to depict weather or climate, and the degree to which they promote the central theme of the poem or song. (a)
- 2.8.5 Describe for the local area the impact of wind at a given direction on (a)
 - . home heating costs
 - . dress
 - . outdoor activities
- 2.8.6 Briefly describe an example where climate helps determine the type of economic activity carried on in a given area (e.g., climatic conditions in British Columbia are ideal for growth of large trees which is the basis for the forestry industry). (a)
- 2.8.7 Assume the role of an individual who has the option of moving to another location in Canada. Determine which climate conditions would enter into the selection of a new area in which to live. (i)

Theme: The Natural Environment

Understanding (2.1.3): Natural relationships in selected Canadian ecosystems and how they are typical of a northern environment.

Specific Curriculum Outcome 3.1:
Students will identify the major ecosystems of Canada.

Performance Expectations

Students will:

- 3.1.1 Define the term ecosystem. (k)
- 3.1.2 Using a map illustrating the natural vegetation regions of Canada, identify the major ecosystems of Canada. (k)
- 3.1.3 Using a diagram, describe the relationship between latitude and the sequence of ecosystems. (a)
- 3.1.4 Using a diagram, describe the relationship between elevation and the sequence of ecosystems. (a)
- 3.1.5 Using a climate map and an ecosystems map, complete the following chart.

Climate Region and Characteristics	Ecosystem and Characteristics

Write a sentence to describe the relationship between climate and vegetation. (a)

Theme: The Natural Environment

Understanding (2.1.3): Natural interrelationships in selected Canadian ecosystems and how they are typical of a northern environment.

Specific Curriculum Outcome 3.2:

Students will examine interrelationships among selected components within ecosystems.

Performance Expectations

Students will:

- 3.2.1 Differentiate the terms producers, consumers, omnivores, and decomposers. (k)
- 3.2.2 Given a brief description of a Canadian ecosystem, identify the producers, consumers, and decomposers. (a)
- 3.2.3 Define the term food chain. (k)
- 3.2.4 Define the term food web. (k)
- 3.2.5 Given a brief description of a Canadian ecosystem, draw a diagram to illustrate inter-relationships among organisms for a selected food web. (a)
- 3.2.6 For a given Canadian ecosystem, describe how a selected animal species is adapted to northern conditions. (k)
- 3.2.7 For a given Canadian ecosystem, describe how a selected plant species is adapted to northern conditions. (k)
- 3.2.8 Given an account of a disruption in an ecosystem (e.g., the removal of a plant specie), predict the probable impact on the ecosystem. (i)

Theme: The Natural Environment

Understanding (2.1.3): Natural interrelationships in selected Canadian ecosystems and how they are typical of a northern environment.

Specific Curriculum Outcome 3.3:

Students will describe the conditions that affect soil fertility.

Performance Expectations

Students will:

- 3.3.1 Identify the four main components which make up soil. (k)
- 3.3.2 Differentiate the terms accumulation of humus, leaching, eluviation, and capillary action. (k)
- 3.3.3 Given a photo of a soil profile, (a)
 - . identify the different horizons; and
 - . determine the ecosystem in which the soil depicted is likely to be found.
- 3.3.4 Given photos of two soil profiles, determine which is likely to be the more fertile. Explain. (a)
- 3.3.5 Explain why tundra soils are infertile. (k)
- 3.3.6 Given a diagram illustrating the relationship between soil fertility and precipitation, inscribe each of four given soil types in its correct position on the curve. (a)
 - a. heavily leached soil
 - b. black prairie soil
 - c. brown prairie soil
 - d. lightly leached soil

Theme: The Natural Environment

Understanding (2.1.3): Natural interrelationships in selected Canadian ecosystems and how they are typical of a northern environment.

Specific Curriculum Outcome 3.4:

Students will value the need for Canadians to be responsive to the fragile nature of the ecosystem.

Performance Expectations

Students will:

- 3.4.1 Examine a graph or table showing the trend for the use of a given resource (e.g., the harvesting of trees, or the catching of fish). Write a sentence to describe the pattern shown. (a)
- 3.4.2 Read a newspaper article about damage by river pollution in Canada (e.g., threat to the beluga whale in the St. Lawrence). Summarize the article according to the following organizer: (a)

Problem:		
Causes	Effects	Possible Solutions

- 3.4.3 Show that forests are an important component of the ecosystem by explaining how they prevent soil erosion and maintain watersheds. (k)
- 3.4.4 Explain how depletion of the ozone layer may affect a given ecosystem. (k)
- 3.4.5 Examine a case study of how the natural balance among organisms in a given ecosystem is being disrupted by some form of pollution (e.g., loss of fish in a lake as a result of acid rain). (i)
. Identify the source of the problem.

- . Describe how the source of pollution negatively affected the food web.
 - . Suggest strategies for solving this problem.
- 3.4.6 Through the use of case study material, examine the views/actions of selected groups on a given environmental issue (e.g., loggers vs. environmentalists in the harvesting of trees in British Columbia; developers vs. native groups on hydro development of the Great Whale). Identify the underlying values of each group. Explain how your values on this issue compare with those held by each side. (i)
- 3.4.7 Identify an environmental issue in your area (e.g., the disposal of garbage into a landfill area). Determine the cause of the problem, suggest strategies to correct it, and communicate these strategies in the form of a letter to the editor of the local paper. (i)

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.1:

Students will identify the components which make up a farming system.

Performance Expectations

Students will:

- 4.1.1 Define the term inputs. (k)
- 4.1.2 Distinguish between natural inputs and human inputs. (k)
- 4.1.3 Define the terms farming processes and outputs. (k)
- 4.1.4 Analyze a case study of a Canadian farm and record the components of the farming system in the following chart. (a)

Inputs		Processes	Outputs
Natural	Human		

- 4.1.5 Apply the following concept to the farming operation described in the above case study. (a)

Natural environmental conditions help determine whether an area is suitable for a particular farming operation.

- 4.1.6 Explain how climate affects the yearly round or cycle of farming activities. (a)

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.2:

Students will examine the main features of the types of farming carried on in Canada.

Performance Expectations

Students will:

- 4.2.1 Given a case study of a wheat farming operation in Canada, briefly explain (a)
- . how climatic conditions poses risks for wheat farmers;
 - . how the soil is suited to wheat farming;
 - . how the terrain is an advantage for the wheat farmer;
 - . the ratio of labour-to-land;
 - . how the farmer attempts to combat natural hazards.
- 4.2.2 Given a case study of a beef cattle grazing operation, (a)
- . describe how the carrying capacity of the land is related to rainfall;
 - . identify the products obtained from the animals;
 - . explain how products are marketed;
 - . determine the share of national beef production held by a given province (e.g., Alberta).
- 4.2.3 Given a case study of a tender fruit operation, (a)
- . describe how local environmental conditions make the area suited to the growing of tender fruit;
 - . identify the variety of crops grown;
 - . describe the annual cycle of farming activities;
 - . explain how the demand for seasonal workers is met;
 - . explain why it is important to be located near the markets.
- 4.2.4 Given a case study of mixed farming, briefly describe (a)
- . the types of crops grown and products produced;
 - . the conditions conducive to mixed farming;
 - . the crop rotation for one field;
 - . why crop rotation is necessary;
 - . where and how the products are marketed.

4.2.5 Given a case study of a market gardening operation, briefly describe (a)

- . the nature of the soil;
- . how high yields are maintained;
- . the importance of access to local markets.

4.2.6 For one of the case studies given above, identify the inputs, farming processes, and the outputs. (a)

4.2.7 Briefly describe the main characteristics of an agribusiness. (k)

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.3:

Students will analyze selected spatial patterns in the agricultural use of the land.

Performance Expectations

Students will:

- 4.3.1 Use an agricultural map of Canada to identify areas which specialize in given types of farming. (k)
- 4.3.2 Examine a map showing the suitability of Canada's land area, classified according to the Canada Land Inventory categories. (a)
 - . Estimate the proportion of Canada's land area which is deemed good to excellent.
 - . Determine the land use in areas classified as poor to very poor.
 - . Select an area classified as good to excellent; by referring to a climate map and an ecosystems map explain why this area is suited to farming.
 - . Select a region (e.g., the Canadian Shield) classified as poor to very poor; explain why it is ill-suited to farming.
 - . Write a brief statement to identify the location of good quality farmland in Canada.
- 4.3.3 Examine a table showing the percentage of land in each province classified as good to excellent. (k)
 - . Rank the provinces from highest to lowest in terms of land quality.
 - . Graph the pattern shown.
- 4.3.4 From the table in item 4.3.2, (a)
 - . select the province with the best quality land;
 - . refer to a soils map and identify the soil type;
 - . explain how the composition of the soil makes it suitable for agriculture.
- 4.3.5 Given a table showing agricultural output by province, determine if there is a relationship between agricultural production and the percentage of land ranked as good to excellent. (a)
- 4.3.6 Define the term growing degree day. (k)

- 4.3.7 Given a map showing the distribution of growing degree days in Canada and a table showing the required growing degree days for selected crops, (a)
- . select an area which is most suited to the growing of a given crop once its required number of growing degree days is stated;
 - . select the area with the highest number of growing degree days and identify factors which account for this pattern.
- 4.3.8 Given a table indicating the average farm size by province and for the country, (a)
- . identify the province with the largest farms and describe the factors which account for this pattern;
 - . identify the province with the smallest farms and describe the factors which account for this pattern.

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.4:

Students will reflect upon issues related to farming the land.

Performance Expectations

Students will:

- 4.4.1 Given a case study related to the loss of farmland in Canada from 1981 to the present, (a)
- . determine the number of farms lost in Canada;
 - . identify the province with the highest loss of farmland;
 - . briefly describe the factors which explain why farmland is being lost in Canada.
- 4.4.2 Given a case study on the loss of soil, (a)
- . list the environmental conditions which often result in soil loss;
 - . on a map, identify the areas of Canada where soil loss is highest;
 - . describe the actions which a farmer may take to reduce soil loss.
- 4.4.3 Write a letter to the editor of a local newspaper to describe your views on the impact of agribusiness operations on family farms. (i)
- 4.4.4 Assume the role of an owner of a construction company who wishes to construct homes on high quality farmland at the edge of a large Canadian city. (i)
- . List the arguments you would use to obtain your construction permit.
 - . Contrast these arguments with those of a young farmer who wishes to purchase land to expand his or her farm.
- 4.4.5 Given a case study about economic aspects of operating a farm, (a)
- . identify factors which tend to cause a cost-price squeeze;
 - . identify international conditions which may also induce a cost-price squeeze;
 - . describe the strategies which farmers may adopt to help address the problem of shrinking profits.
- 4.4.6 Assume the role of a farmer who is forced to sell his or her farm due to falling prices and rising costs (e.g., for borrowing and for energy). Write a letter to an editor of a newspaper to argue for government intervention in such instances. (i)

- 4.4.7 Given an account of a farmer who changed from the growing of one crop to another (e.g., tobacco to peanuts in south-western Ontario), (a)
- . determine the factors which account for this decision;
 - . describe the change in farming processes;
 - . change in market.

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.5:

Students will describe the spatial distribution of categories of mineral resources.

Performance Expectations

Students will:

- 4.5.1 Define the term mineral. (k)
- 4.5.2 Distinguish between metallic and non-metallic minerals. (k)
- 4.5.3 Given a series of minerals, classify each as metallic, non-metallic, or fossil fuel. (a)
- 4.5.4 Using a map showing the location of the principal mineral areas of Canada, briefly describe the location of (a)
 - . metallic minerals
 - . non-metallic minerals

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.6:

Students will identify the main types of mining operations.

Performance Expectations

Students will:

- 4.6.1 Describe the techniques used today to find new mineral deposits. (k)
- 4.6.2 Given a case study of an open-pit mining operation (e.g., Timmins), (a)
 - . develop a chart to list the inputs, mining processes, and outputs;
 - . describe the conditions under which open-pit mining is carried on.
- 4.6.3 Given a case study of an underground mine (e.g., Hemlo Gold), (a)
 - . develop a chart to list the inputs, mining processes, and outputs;
 - . describe the conditions under which underground mining is carried on.
- 4.6.4 Describe the conditions which are likely to result in strip mining. (k)
- 4.6.5 Describe the conditions which are likely to result in drilling for oil and gas. (k)

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.7:

Students will reflect upon issues associated with mining activity.

Performance Expectations

Students will:

- 4.7.1 Identify the type of mining activity which is likely to be most hazardous. Explain. (k)
- 4.7.2 Assume the role of the president of a mining firm. Prospectors for your company have identified a promising body of ore. Develop a list of physical, economic, and social conditions you will have to consider before making a decision to open a mine. (i)
- 4.7.3 Research newspapers to identify a mining operation which experienced an accident or disaster. Write a brief report to examine (a)
- . the cause of the accident or disaster;
 - . its impact in terms of lives lost, injuries, and damage to property;
 - . the response of the company to the incident;
 - . the response of the community.
- 4.7.4 Examine a case study of a town where the mining operation closed down. Describe (a)
- . the factors which led to the close-down;
 - . the immediate effects that the mine closing had on the town;
 - . how the experiences would likely affect family life;
 - . long-term survival strategies adopted by the town;
 - . efforts of the company to clean up the environment.
- 4.7.5 A mining company has just decided to open a mine near your community. Assume each of the following roles and pose a question you would ask company officials at a public meeting: (i)
- . an environmentalist
 - . an unemployed worker
 - . a road contractor

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.8:

Students will describe selected patterns in the distribution of forest resources.

Performance Expectations

Students will:

- 4.8.1 Analyze a map showing the forest regions of Canada and a map showing the climate zones of Canada, (a)
- . Identify specific regions of Canada which are not forested.
 - . Describe the relationship between climate and the distribution of forests.
- 4.8.2 Given a table showing (by province, territory, and for Canada) the area of the total forest land and productive forest land. (a)
- . Identify the two areas with the highest percentage of forest land classified as productive.
 - . Identify the two areas with the lowest percentage of productive forest land.
 - . Describe the conditions which help to explain these patterns.
- 4.8.3 Describe the natural conditions which determine if a forest is of commercial value. (k)

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.9:

Students will analyze selected trends in the harvesting of forest resources.

Performance Expectations

Students will:

- 4.9.1 Given a table showing the number of workers in the forest industry and the volume of timber cut for a selected time period, (a)
- . describe the trend in the number of workers employed;
 - . describe the trend in the volume of timber harvested;
 - . explain how these two trends are interrelated.
- 4.9.2 Given a case study on a logging operation today and one early in this century, briefly describe (a)
- . the changes in working conditions;
 - . the differences in the kinds of technology used;
 - . how the labour/capital ratio has changed.
- 4.9.3 Given a case study of a wood harvesting operation in Canada, describe (a)
- . the effect of climatic conditions and topography on the operation;
 - . the kinds of equipment used;
 - . how trees are harvested and marketed;
 - . the forest management practices engaged in.
- 4.9.4 Given a case study of a pulp and paper operation, (a)
- . list the key factors which made the location an attractive site for a pulp and paper mill;
 - . explain why an abundance of water was important;
 - . describe the conditions which resulted in "down time";
 - . comment on the importance of the operation to the local economy.

Theme: Natural Resources

Understanding (2.1.4): Activities and issues related to how Canadians use resources on the land.

Specific Curriculum Outcome 4.10:

Students will reflect upon issues related to the harvesting of forest resources.

Performance Expectations

Students will:

- 4.10.1 Define the term sustained yield. (k)
- 4.10.2 Identify objections which a timber harvesting company may have to a sustained yield policy. (k)
- 4.10.3 List five strategies which may be used to reduce the threat from insect infestation. (k)
- 4.10.4 Given a case study about a human-made threat (e.g., forest fires, acid rain, clear cutting) to the forest ecosystem, (a)
 - . identify the source of the threat;
 - . describe the impact it has on the forest ecosystem;
 - . describe the human efforts to reduce the threat;
 - . list opposing views to these efforts and identify who holds these opposing views;
 - . describe the potential economic effects if the threat went unchecked.
- 4.10.5 Conduct research and write a brief report on possible uses for discarded outputs from the forestry industry (e.g., wood bark). (a)
- 4.10.6 Given a case study of a silviculture operation, (i)
 - . describe the silviculture methods used;
 - . determine if the data indicates an increase in silviculture activity;
 - . decide whether you agree with the expenditure of money into a program which will take a long time to show results.
- 4.10.7 Given two letters to a newspaper editor in which opposing stands are taken on the cutting practices of a commercial logging operation, (i)
 - . identify the issue(s) from the two writers' point of view;
 - . determine the underlying values of the writers;
 - . choose the position you would take on the issue; explain why.

- 4.10.8 Assume the role of the president of the local Chamber of Commerce in a town where the largest employer is a pulp and paper mill. Management at the mill has just announced that a drop in newsprint prices will result in serious "down time" at the mill. Write a report to be given at the next meeting of municipal council describing the possible effects of the situation on the town. (i)

Theme: Natural Resources

Understanding (2.1.5): Activities and issues related to how Canadians use resources in the ocean environment.

Specific Curriculum Outcome 5.1:

Students will identify selected features of commercial fish habitats.

Performance Expectations

Students will:

- 5.1.1 Define the term habitat. (k)
- 5.1.2 Distinguish between zooplankton and phytoplankton. (k)
- 5.1.3 Define the terms banks and continental shelf. (k)
- 5.1.4 Describe the conditions which make each of the following areas suitable as a fish habitat. (k)
 - . The waters off Canada's Pacific coast.
 - . The waters off Canada's Atlantic coast.
- 5.1.5 Given a diagram of a food web in the marine ecosystem, (a)
 - . identify a food chain;
 - . describe the possible impact of the removal of a specie on other species in the food web.
- 5.1.6 Conduct research about an aquacultural operation to determine how it tries to replicate natural environmental conditions (e.g., water temperature, sunlight, feeding patterns). Present your findings in a brief report. (a)

Theme: Natural Resources

Understanding (2.1.5): Activities and issues related to how Canadians use resources in the ocean environment.

Specific Curriculum Outcome 5.2:

Students will examine selected activities associated with the harvesting of the fish resource.

Performance Expectations

Students will:

- 5.2.1 Briefly distinguish between the terms inshore fishery and the offshore fishery. (k)
- 5.2.2 Given a graph showing the northern cod landings, 1960 to the present, briefly describe how the catch for the inshore fishery compares with that of the offshore fishery. (k)
- 5.2.3 Given a case study about the inshore fishery, describe (a)
 - . the type of gear used;
 - . species caught;
 - . activities during a typical working day;
 - . the annual cycle of activity; and
 - . approaches to ensure quality control.
- 5.2.4 Given a case study about the offshore fishery, describe how this fishery is similar to and different from the inshore fishery for the five features listed in item 5.2.3. (a)
- 5.2.5 Given a bar graph showing the catches by major fishing fleets for selected species off Canada's Atlantic coast, identify (k)
 - . the two species with the highest landings;
 - . the country which harvests the greatest portion of these two species; and
 - . the species which Canada harvests the least amount of. Explain.
- 5.2.6 Compare the Atlantic fishery with the Pacific coast fishery in terms of (a)
 - . the most predominate species caught;
 - . the number of people employed;
 - . the value of landings;
 - . types of technology used.

- 5.2.7 Select a type of fishing technology (e.g., the otter trawl), (k)
- . describe why it was introduced;
 - . the impact upon the fishery.
- 5.2.8 Identify a quality control condition expected in the market place and describe how the fishing industry attempts to meet it. (k)
- 5.2.9 Define the term aquaculture. (k)
- 5.2.10 Given a case study about an aquaculture operation (e.g., mussels), describe (a)
- . the factors which affected the selection of the site for the operation;
 - . the obstacles the entrepreneur had to overcome to make the operation viable;
 - . the life cycle of the species;
 - . how the species is marketed; and
 - . problems with meeting the conditions expected in the marketplace.
- 5.2.11 Select an exotic specie (e.g., wolffish) which fishery scientists think has potential for fish farming. Conduct research to determine why it has potential in the marketplace. (a)
- 5.2.12 Interview an individual who engages in the harvesting of a non-traditional ocean resource (e.g., sea urchins, Irish moss). (a)
- . Find out the individual became involved in this kind of activity.
 - . Describe some of the processes associated with the activity.
 - . Identify the market and uses made of the resource.
- 5.2.13 Interview a manager of a food-based business operation (e.g., a restaurant). Examine the trend in customer preference for groups of foods (e.g., chicken, meat, fish). Account for the degree to which fish is consumed compared to other food groups. Based on the information gathered, prepare an article to be included in the food column of a newspaper. (i)

Theme: Natural Resources

Understanding (2.1.5): Activities and issues related to how Canadians use resources in the ocean environment.

Specific Curriculum Outcome 5.3:

Students will reflect upon issues related to a sustainable fishery.

Performance Expectations

Students will:

- 5.3.1 Describe the effect that a given source of pollution (e.g., ships pumping their bilges into the sea) has on the ocean environment. (k)
- 5.3.2 Given a bar graph showing cod landings from Canadian Atlantic waters, (a)
 - . briefly describe the pattern shown;
 - . give reasons for this pattern; and
 - . explain why Canada decided to extend its offshore jurisdiction from 22 km to 370 km on January 1, 1977.
- 5.3.3 Given an account of a fishing dispute between Canada and another jurisdiction (e.g., St. Pierre et Miquelon), describe (a)
 - . the central issue in the dispute;
 - . the claims of each country; and
 - . how the dispute was settled.
- 5.3.4 Describe the conditions which contributed to the serious depletion of cod stocks in Canada's Atlantic waters that began in the 1970s. (k)
- 5.3.5 Examine a newspaper article, or another media source, about the cod moratorium imposed in July 1992. (i)
 - . Describe the impact of the moratorium on a fisher person and his or her family.
 - . Describe how you would feel if you were in this situation.
- 5.3.6 Assume the role of a media reporter who is to interview the provincial and federal ministers of fisheries and oceans. Develop a list of questions which may be used to determine the views of each of the ministers views on whether fisheries management should be a federal or provincial responsibility. (i)

Theme: Natural Resources

Understanding (2.1.5): Activities and issues related to how Canadians use resources in the ocean environment.

Specific Curriculum Outcome 5.4:

Students will analyze activities related to the exploration and recovery of off-shore oil and gas.

Performance Expectations

Students will:

- 5.4.1 Given a map showing the sedimentary basins of Canada, identify the potential source areas for off-shore oil and gas. (k)
- 5.4.2 Describe the characteristics of an oil and gas trap which enable it to hold reserves of these two fossil fuels. (k)
- 5.4.3 Describe the kinds of unique technology that drilling companies have to use in the High Arctic. (k)
- 5.4.4 Compare the advantages of each of the four following types of offshore drilling platforms:
 - . submersible
 - . jack-up
 - . anchored semi-submersible
 - . dynamically positioned semi-submersible (a)
- 5.4.5 Describe the benefits which a lesser developed region of Canada would gain from the development of a large off-shore oil field (e.g., Hibernia). (k)
- 5.4.6 Given a case study of an off-shore oil or gas recovery operation, describe (a)
 - . the location of the reserve;
 - . activities associated with the recovery of oil or gas; and
 - . the method used to transport oil or gas to the onshore site.
- 5.4.7 Given an account of the daily working conditions of an oil rig worker, list the conditions which would (or would not) attract workers to this type of employment. (a)

Theme: Natural Resources

Understanding (2.1.5): Activities and issues related to how Canadians use resources in the ocean environment.

Specific Curriculum Outcome 5.5:

Students will explore issues related to the exploration and recovery of offshore oil and gas.

Performance Expectations

Students will:

- 5.5.1 Assume that OPEC has decided to significantly increase oil production during the next ten years. Explain how this move would likely affect the off-shore oil and gas industry. (a)
- 5.5.2 Conduct research to find out how various groups (e.g., oil companies, and government) have sought to improve safety conditions for offshore oil and gas drilling activities. Develop a report to include such information as: (a)
 - . training programs;
 - . inspection activities; and
 - . emergency procedures.
- 5.5.3 Given an account of a recent environmental disaster associated with the off-shore oil industry, describe (a)
 - . the conditions which led to the disaster;
 - . the effects it had on the environment; and
 - . actions taken to avert such disasters in the future.
- 5.5.4 Assume the role of the president of an off-shore drilling company. You are to meet with the federal energy minister to argue for government subsidies and tax breaks for companies drilling for off-shore oil and gas. Prepare the arguments you would use. (i)

Theme: The New Economy

Understanding (2.1.6): Patterns in the secondary processing of primary resources in Canada.

Specific Curriculum Outcome 6.1:

Students will appraise the relative importance of Canada's three economic sectors.

Performance Expectations

Students will:

- 6.1.1 Define the term primary industry. (k)
- 6.1.2 Define the term secondary industry. (k)
- 6.1.3 Define the term tertiary industry. (k)
- 6.1.4 Given a brief description (or photo) of an economic activity, classify it as either primary, secondary, or tertiary. (a)
- 6.1.5 Examine a table showing the percent employed in each economic sector by province and for the country. Rank the provinces from the highest to the lowest in terms of percent employed in secondary industry. (k)
- 6.1.6 Develop a list of the jobs that parents of your classmates hold. (a)
 - . Develop a table showing the percent employed by economic sector.
 - . Compare the percentages with those for the country. Explain the similarity or difference.
- 6.1.7 Examine a bar graph depicting the percent employed in each sector for 10-year intervals from 1901 to the present. Describe the pattern shown. (a)
- 6.1.8 Define the term value added. (k)
- 6.1.9 Analyze a line graph showing the value added by manufacturing, 1900 to the present. (a)
 - . Describe the pattern shown.
 - . Describe the conditions which account for this pattern.
- 6.3.10 Given a bar graph showing the percent of female participation in each economic sector, (a)
 - . identify the pattern shown;

- . describe the conditions which help explain this pattern; and
- . explain if and why this pattern will continue.

Theme: The New Economy

Understanding (2.1.6): Patterns in the secondary processing of primary resources in Canada.

Specific Curriculum Outcome 6.2:

Students will appraise the influence of selected factors on the location of industry.

Performance Expectations

Students will:

- 6.2.1 Distinguish between the terms site and situation. (k)
- 6.2.2 Describe the site factors which make an area suitable for the location of an industry. (k)
- 6.2.3 Given a case study of an industry (e.g., an auto assembly plant), identify the site factors which made the location suitable for the industry. (a)
- 6.2.4 Describe the situational factors which make an area suitable for the location of an industry. (k)
- 6.2.5 Given an account of an industry (e.g., an auto assembly plant), determine the factors which explain why it located where it is. (a)
- 6.2.6 Select a region of Canada which has an abundance of a natural resource. Explain how this has influenced the type of manufacturing activities carried on there. (k)
- 6.2.7 Given a map and related information, decide where to locate a given industry (e.g., a steel mill). Defend the decision. (i)
- 6.2.8 Given a table showing the value of manufacturing for the major centres in Canada, identify the two largest centres. (k)
- 6.2.9 Describe the conditions which make the two centres identified in item 6.2.7 so industrialized. (k)
- 6.2.10 Select a region which is not highly industrialized and identify the factors which account for this situation. (k)
- 6.2.11 State whether the following statement is valid position to hold. Explain. (i)
It is more beneficial for Canada to have its manufacturing activities concentrated in two major centres than to have them dispersed throughout the country.

Theme: The New Economy

Understanding (2.1.6): Patterns in the secondary processing of primary resources in Canada.

Specific Curriculum Outcome 6.3:

Students will select characteristics of a manufacturing operation.

Performance Expectations

Students will:

- 6.3.1 Given an account of a manufacturing operation, determine (a)
- . the origin of the idea for the operation;
 - . barriers or problems in getting started;
 - . solutions to these problems; and
 - . essential skills and attitudes for running a manufacturing operation.
- 6.3.2 Define the terms inputs and outputs. (k)
- 6.3.3 Analyze a case study of a factory. (a)
- . List the inputs.
 - . Determine where the material inputs are obtained.
 - . Identify the outputs.
 - . Determine where the finished product is marketed.
- 6.3.4 Given the costs of inputs and manufacturing processes and the price at which the product is marketed, (a)
- . determine the manufacturer's profit level;
 - . describe the effect on profit of a change in the cost of an input; and
 - . describe the effect on profit of a change in the exchange rate of the Canadian dollar.
- 6.3.5 Given a series of activities involved in the manufacturing process in a factory, arrange them in their proper sequence. (k)

Theme: The New Economy

Understanding (2.1.6): Patterns in the secondary processing of primary resources in Canada.

Specific Curriculum Outcome 6.4:

Students will reflect upon issues related to the secondary processing of primary resources.

Performance Expectations

Students will:

6.4.1 Take a stand on the following issue. (i)

The establishment of American branch plants has been beneficial for Canada's economy.

6.4.2 Assume the role of the president of the Canadian Manufacturer's Association. Your organization has adopted a policy that Canadians should buy Canadian manufactured goods over those imported from other countries. Develop a strategy for selling this idea to Canadians. (i)

6.4.3 Given an account of the closure of a manufacturing operation in a community. (a)

- . Identify the cause of the closure.
- . Describe the effect this closure will have on employment prospects for those who are about to enter the labour force.
- . Explain how it will affect the level of services which the town is able to provide.
- . Describe the effect on the town's population.

6.4.4 Analyze a case study of a specific industrial activity which has a negative impact on the environment. (i)

- . Explain how this activity is affecting the environment.
- . Describe the response of interest groups to the hazard.
- . Suggest actions which may be taken to reduce or eliminate the negative impact on the environment.

Theme: The New Economy

Understanding (2.1.7): Processes which account for the increasing importance of the tertiary sector to Canadians.

Specific Curriculum Outcome 7.1:

Students will describe the nature of tertiary activity.

Performance Expectations

Students will:

- 7.1.1 Define the term tertiary activity. (k)
- 7.1.2 Consult the Yellow Pages of the telephone directory and group some of the services provided to the local community as commercial or non-commercial. (k)
- 7.1.3 Given a table showing the percentage of Canadians by province employed in the tertiary sector, (a)
 - . construct a bar graph to illustrate the data;
 - . determine how your province compares with other provinces in terms of percentage employed in the tertiary sector; and
 - . explain this pattern.
- 7.1.4 Given a line graph of the percentage of Canadians employed in the tertiary sector for the past 100 years, test the validity of the following statement. (a)

According to the Canadian experience, the percentage of workers employed in the tertiary sector decreases as a country develops.

Theme: The New Economy

Understanding (2.1.7): Processes which account for the increasing importance of the tertiary sector to Canadians.

Specific Curriculum Outcome 7.2:

Students will analyze the influence of certain factors on the location of given tertiary activities.

Performance Expectations

Students will:

- 7.2.1 Given a table showing the population of the ten largest Canadian cities and the type of professional sports facility and seating capacity, (a)
- . describe the relationship between a city's population and whether or not it has a professional sports team; and
 - . identify two other centres where another sports franchise could be located.
- 7.2.2 Given a case study of a National Park (e.g., Cavendish in Prince Edward Island), (a)
- . list the natural features which make this a good area for a national park;
 - . describe the cultural activities which contribute to the importance of this area;
 - . identify the services which tourists require when they visit the area;
 - . list the kinds of jobs created by the park; and
 - . describe the transportation system which facilitates the movement of tourists to and from the area.
- 7.2.3 Given a map of shopping mall sites and the transportation system for a large urban area, (a)
- . determine if there is a relationship between their location and access to major expressways and roads; and
 - . gives reasons for the pattern shown.
- 7.2.4 Given a case study of a business which provides information services, (a)
- . Determine how the idea for the operation originated.
 - . Describe the factors which most account for the location of this business.
 - . Describe the location of the market which uses this "product".
 - . In the light of this case study, examine the validity of the following statement.

The most deciding factor in the location of an information-based operation is its nearness to its market.

- 7.2.5 Assume the role of an entrepreneur who wishes to establish a fast-food franchise in the local community. Develop a list of questions which need to be addressed before a final decision is made. (i)
- 7.2.6 For your local area, (i)
- . develop an inventory of possible leisure and recreational activities which could be developed given the population size, physical attractions, and cultural attractions;
 - . determine the one which has the greatest potential; and
 - . develop a tourist brochure to promote the leisure and recreational activity selected.

Theme: The New Economy

Understanding (2.1.7): Processes which account for the increasing importance of the tertiary sector to Canadians.

Specific Curriculum Outcome 7.3:

Students will reflect upon selected issues related to tertiary activities.

Performance Expectations

Students will:

- 7.3.1 The Government of Canada and some provincial governments are decentralizing the operations of some departments. (k)
- . List the arguments in favour of this trend.
 - . List arguments in opposition to such a move.
- 7.3.2 Assume that you are an advisor to the Canadian prime minister who is developing a policy to further decentralize government services to Canadians. Suggest which part of Canada become the location for each of the following departments and explain why. (a)
- . Agriculture
 - . Mines, Energy, and Resources
 - . Fisheries and Oceans
- 7.3.3 Interview a displaced primary or secondary worker who is undergoing retraining for a job in the tertiary sector. Develop a report to include: (a)
- . conditions which led to the loss of the previous job;
 - . problems the individual is experiencing in the retraining process;
 - . why he or she selected this kind of training; and
 - . financial incentives available from private industry and/or government programs.
- 7.3.4 A major department store chain has decided to set up a large anchor store operation in a local shopping mall. Explain how each of the following would feel about this decision: (i)
- . a consumer;
 - . an owner of a small clothing business;
 - . the owner of a fast food operation in the mall; and
 - . a student looking for summer employment.

- 7.3.5 Analyze a case study of a tourist area (e.g., Banff National Park; (i)
- . list ways in which the development has changed the appearance of the site;
 - . describe the impact of tourism on the environment;
 - . describe measures taken to reduce this impact; and
 - . evaluate the success of these measures.

Theme: The New Economy

Understanding (2.1.8): Significant trends in the distribution, growth, and composition of Canada's population.

Specific Curriculum Outcome 8.1:

Students will describe patterns in the distribution of Canada's population.

Performance Expectations

Students will:

- 8.1.1 Define the term population distribution. (k)
- 8.1.2 Distinguish between the terms dispersed and concentrated. (k)
- 8.1.3 Define the term population density. (k)
- 8.1.4 Given a population dot map for each of two areas, determine (a)
 - . which area represented has the more evenly distributed population;
 - . which area has the more dispersed population distribution; and
 - . which area has the higher population density.
- 8.1.5 Given a table showing the population and area for each province and territory, (a)
 - . calculate the population density for each province; and
 - . rank the provinces by population density (highest to lowest).
- 8.1.6 Given a population distribution map of Canada, state your agreement or disagreement with the following statement. Explain. (a)

Canadians live in "islands" of population strung along the southern border.

Theme: The New Economy

Understanding (2.1.8): Significant trends in the distribution, growth, and composition of Canada's population.

Specific Curriculum Outcome 8.2:

Students will examine factors which influence the distribution of Canada's population.

Performance Expectations

Students will:

- 8.2.1 Examine a landforms map of Canada. Select an area (e.g., Rocky Mountain region) and describe how landforms contribute to an uneven distribution of population. (a)
- 8.2.2 Select a densely populated area (e.g., Niagara Peninsula) and a sparsely populated area (e.g., North West Territories). Examine a climate map and explain how climate affects the distribution of population. (a)
- 8.2.3 Describe an example to support each of the following statements: (a)
 - . Coastal water forms influence the distribution of population.
 - . Inland water forms help determine where Canadians live.
- 8.2.4 Describe the impact of resource centres on the distribution of population in Canada. (k)
- 8.2.5 Examine a table showing the provincial share of population employed in manufacturing and a table showing the population by province. Describe the relationship between manufacturing and population size. (a)

Theme: The New Economy

Understanding (2.1.8): Significant trends in the distribution, growth, and composition of Canada's population.

Specific Curriculum Outcome 8.3:

Students will describe patterns in the growth of Canada's population.

Performance Expectations

Students will:

- 8.3.1 Given a population line graph (10-year intervals), describe the change in Canada's population. (a)
- 8.3.2 Examine a multiple line graph showing the population growth rate for each province. (a)
- . Identify the province which has experienced the highest growth rate.
 - . Describe the social and economic conditions which help explain this trend.
- 8.3.3 Define the terms birth rate and growth rate. (k)
- 8.3.4 Define the term natural increase. (k)
- 8.3.5 Examine a table showing the birth rate and death rate (5-year intervals) for the past 75 years. (a)
- . Calculate the rate of natural increase for each 5-year interval and present in table form.
 - . Describe what is happening to Canada's rate of natural increase over the 75-year period.
 - . Briefly describe some of the social conditions help explain the pattern in the rate of natural increase.
- 8.3.6 Given a table showing the number of families and average number of children per family (for the period 1941 to present), (a)
- . describe what is happening to family size; and
 - . compare this trend with that reflected in item 8.3.5.
- 8.3.7 List reasons which help explain why Canada's rate of natural increase is shrinking. (k)

Theme: The New Economy

Understanding (2.1.8): Significant trends in the distribution, growth, and composition of Canada's population.

Specific Curriculum Outcome 8.4:

Students will examine the composition of Canada's population.

Performance Expectations

Students will:

- 8.4.1 Define the term population pyramid. (k)
- 8.4.2 Given a population pyramid for Canada, (a)
 - . compare the total percentage of females to that of males;
 - . compare the total percentage of females over age 65 to that of males over age 65; and
 - . explain why the base of the population pyramid is relatively narrow.
- 8.4.3 Define the term dependency load. (k)
- 8.4.4 From the population pyramid in item 8.4.2, calculate the dependency load. (a)
- 8.4.5 Describe the potential impact of a high dependency load on such conditions as
 - . housing,
 - . tax levels for the working population; and
 - . job opportunities.
- 8.4.6 Given a pie chart showing the composition of Canada's population by major ethnic group, describe the pattern shown. (a)
- 8.4.7 Examine a population pyramid for native people in Canada and the population pyramid in item 8.4.2. Determine whether the following statements are valid and explain why. (a)
 - . Native people in Canada have a higher birth rate than the general population does.
 - . Compared to the general population, a higher percentage of the native population lives to reach age 70 and older.

Theme: The New Economy

Understanding (2.1.8): Significant trends in the distribution, growth, and composition of Canada's population.

Specific Curriculum Outcome 8.5:

Students will evaluate the effects of migration on the distribution and size of Canada's population.

Performance Expectations

Students will:

- 8.5.1 Define the term migration. (k)
- 8.5.2 Distinguish between the terms immigration and emigration. (k)
- 8.5.3 Define the term actual change. (k)
- 8.5.4 Given a table showing Canada's migration totals (1985 to the present), (a)
 - . calculate the net migration figure for each year; and
 - . calculate the total number of immigrants and emigrants within this period.
- 8.5.5 Given the number of deaths, births, emigrants, and immigrants for a given year, calculate the actual change in population. (a)
- 8.5.6 Given a bar graph showing trends in immigration to Canada from 1867 to the present and a socio-economic descriptor for given periods (e.g., the Depression), explain how the number of immigrants is affected by social and economic conditions in Canada. (a)
- 8.5.7 Examine a table showing net inter-provincial migration in Canada. (a)
 - . Identify the provinces which have been experiencing a net outflow of people.
 - . Identify the provinces which have been experiencing a net inflow of people.
 - . List factors which account for the migration of people from one province to another.
- 8.5.8 Assume the role of the premier of a province which is the destination for large numbers of migrants from other provinces. (i)
 - . Adopt a position which either supports or does not support this trend.
 - . Develop strategies which would help promote this position.
- 8.5.9 Assume that you are to move to another province. (i)
 - . Determine which province you would choose. Explain why.

- . List possible obstacles to this move.

Theme: The New Economy

Understanding (2.1.9): Conditions which influence the development and viability of built environments in Canada.

Specific Curriculum Outcome 9.1:

Students will review the rural-urban duality in Canada.

Performance Expectations

Students will:

- 9.1.1 Define the term rural. (k)
- 9.1.2 Define the term urban. (k)
- 9.1.3 Given a series of photographs, classify each one as either rural or urban. (k)
- 9.1.4 Examine a bar graph showing the percentage of rural and urban population in Canada for the past 100 years. (a)
 - . Determine for each time interval the change in the percentage of Canadians living in rural areas.
 - . Determine for each time interval the change in the percentage of Canadians living in urban areas.
 - . Describe what has been happening to the rural-urban balance in Canada over the past 100 years.
- 9.1.5 Define the term urbanization. (k)
- 9.1.6 Describe the conditions which account for the increasing rate of urbanization in Canada. (k)
- 9.1.7 Define the term Census Metropolitan Area (CMA). (k)
- 9.1.8 Examine a table showing the population of the twenty largest CMAs in Canada for the last four census returns (i.e., twenty years) and the percentage change in their population. (a)
 - . Calculate the percentage of the total Canadian population found in these cities.
 - . On an outline map of Canada, indicate the location of each CMA; at each point, draw a vertical bar to indicate the percentage change in the population of each CMA.
 - . Identify the province which experienced the greatest growth in size of its CMAs. Explain why.

- . Identify the five provinces cities which experienced the greatest percentage.
- . Determine if this pattern is related to your findings about inter-provincial migration. Explain.
- . Select a large city which did not experience a high percentage of population growth. Explain why.

Theme: The New Economy

Understanding (2.1.9): Conditions which influence the development and viability of built environments in Canada.

Specific Curriculum Outcome 9.2:

Students will examine conditions which influenced the location of settlements in Canada.

Performance Expectations

Students will:

- 9.2.1 Define the term site. (k)
- 9.2.2 Given a case study, describe how the needs of settlers were matched with the resource advantages of a particular site. (a)
- 9.2.3 With reference to a Canadian example, explain how a protected site which provided a military advantage helped a settlement to get established. (k)
- 9.2.4 Given a case study, describe how a settlement was established as the result of the transportation advantages a site provided. (a)
- 9.2.5 Support the following statement by referring to a specific example. (a)

Climatic conditions help make a location attractive for settlement.
- 9.2.6 Conduct a study of the local community and determine the main conditions that influenced the decision of settlers to locate there. (a)

Theme: The New Economy

Understanding (2.1.9): Conditions which influence the development and viability of built environments in Canada.

Specific Curriculum Outcome 9.3:

Students will analyze conditions which led to the growth in the size of settlements.

Performance Expectations

Students will:

- 9.3.1 Define the term situation. (k)
- 9.3.2 Given a series of brief statements, identify those which refer to site and those which refer to situation. (k)
- 9.3.3 Given a case study of a Canadian city, identify the situational factors which led to its growth in size and importance. (a)
- 9.3.4 Conduct a study of the local community and identify the factors which caused it to grow. (a)

Theme: The New Economy

Understanding (2.1.9): Conditions which influence the development and viability of built environments in Canada.

Specific Curriculum Outcome 9.4:

Students will examine the relationship between a community's population size and the range of services it provides.

Performance Expectations

Students will:

9.4.1 Define the terms low-order services, middle-order services, and high-order services. (k)

9.4.2 Use the Yellow Pages of the telephone directory to examine the variety of services available in the local community and two other communities of significantly different sizes. (a)

. Present the information in chart form.

Community	Population	Order of Services		
		Low	Middle	High

. Describe the relationship between the size of the community and the range of services it provides

9.4.3 Assuming that you live in a rural community, conduct a survey to determine if shoppers would make a purchase in the local community or in another community in order to meet each of the following needs. Present the information in the following chart. (a)

Need	Where need would be met		Population
	Local	Other	
bread			
ice cream			
gasoline			
newspaper			
electrical supplies			
auto repairs			
prescription drugs			
art			
dental services			
expensive jewellery			
legal services			
computer repairs			
rock concert			
open heart surgery			
symphony orchestra			

- . Cite evidence to support the following statement.
- . The greater the size of community the greater the range of services it provides to neighbouring communities.
- . Explain how the distance one may travel depends upon the type of need to be met.

9.4.4 Given a case study, describe a service centre in terms of (a)

- . size,
- . site,
- . situation, and
- . range of services provided.

- 9.4.5 Conduct research on a Canadian city to (a)
- . classify it by its major function (e.g., manufacturing, administrative, transportation); and
 - . determine the factors which led to its rise in importance for this major function.

Theme: The New Economy

Understanding (2.1.9): Conditions which influence the development and viability of built environments in Canada.

Specific Curriculum Outcome 9.5:

Students will explore issues related to the rural and urban environments

Performance Expectations

Students will:

- 9.5.1 Define the term physical blight. (k)
- 9.5.2 Given a series of photographs, describe examples of physical blight. (k)
- 9.5.3 Define the term functional blight. (k)
- 9.5.4 Given a brief case study, (i)
 - . describe an example of functional blight; and
 - . suggest a strategy to prevent further incidence of functional blight in this community.
- 9.5.5 Define the term frictional blight. (k)
- 9.5.6 Give some examples of frictional blight in the local community. (a)
- 9.5.7 Given a map showing police districts for a major city and a table giving criminal offenses by category, (a)
 - . rank the police districts from least safe to most safe (i.e., from the highest number of offenses to the lowest number of offenses);
 - . compare downtown policy districts with suburban districts in terms of safety; explain this pattern; and
 - . identify crimes which appear to be typically downtown and crimes which appear to be suburban.
- 9.5.8 Examine a case study of urban sprawl. (a)
 - . Describe reasons for this trend.
 - . List some of the effects it has on the environment.
 - . Explain how urban sprawl affects the farmer.

- 9.5.9 Given a case study of a declining rural community, (i)
- . determine the conditions which are decreasing its viability;
 - . cite evidence of the decline; and
 - . suggest strategies for improving the viability of communities in decline.
- 9.5.10 Assume the role of an individual who is to move to a city. (i)
- . Develop a list of the characteristics or qualities you would like the city to have.
 - . Identify features found in the local community which are likely missing in the urban setting.

Theme: Connections

Understanding (2.1.10): Linkage networks and how they are fundamental in moving people, goods, and information in Canada's vast environment.

Specific Curriculum Outcome 10.1:
Students will describe the main elements of a linkage network.

Performance Expectations

Students will:

- 10.1.1 Define the term linkage. (k)
- 10.1.2 Given a series of descriptors, categorize each one as either a transportation linkage or communication linkage. (k)
- 10.1.3 Define the term journey chain. (k)
- 10.1.4 Given a description of how a good is transported between two points, or how information is electronically exchanged, identify the components of the journey chain: (a)
 - . the mode;
 - . origin;
 - . links;
 - . junction points; and
 - . destination.

Theme: Connections

Understanding (2.1.10): Linkage networks and how they are fundamental in moving people, goods, and information in Canada's vast environment.

Specific Curriculum Outcome 10.2:

Students will examine the factors which result in the uses of different modes of transportation.

Performance Expectations

Students will:

- 10.2.1 Examine a table showing the percentage use, in Canada, of different modes of transportation taken to move people and to move goods. Identify (k)
- . the main mode used to move people;
 - . the main mode used to move goods.
- 10.2.2 Complete the following chart to compare the advantages and disadvantages of transportation by road, rail, water, and air. (k)

Mode	Advantages	Disadvantages
Road		
Rail		
Water		
Air		

- 10.2.3 Assume that you are to visit a major Canadian city. Consult various sources (e.g., an atlas, a travel agent) and complete the following chart. (a)

Transportation Mode	Distance (km) from Home	Cost (\$)	Time (hrs)

Car			
Train			
Bus			
Plane			

Explain why you would or would not use a mode listed in the chart.

10.2.4 Given a brief description of the movement of a good (e.g., salmon from British Columbia to Montreal; wheat from Saskatchewan to Shanghai), (a)

- . identify each mode of transportation used;
- . describe the factors which account for the use of each mode.

10.2.5 Given a description of the source of an item and its intended destination, decide which mode should be used to ship it. Defend the choice. (i)

10.2.6 Given a map of the transit system for Toronto, (a)

- . select an origin and destination point for a journey;
- . determine where each of the following will be used:
 - the GO train
 - the subway
 - the bus

Theme: Connections

Understanding (2.1.10): Linkage networks and how they are fundamental in moving people, goods, and information in Canada's vast environment.

Specific Curriculum Outcome 10.3:

Students will analyze conditions which affect the quality of transportation and communications.

Performance Expectations

Students will:

- 10.3.1 Examine a table indicating the width, traffic flow, and speed of flow for freeways, arterial roads, collector roads, and local roads. Identify features which affect the quality of a road network. (k)
- 10.3.2 Given a table indicating hourly traffic flows from Toronto suburbs to the Central Business District, (a)
- . draw a line graph to show the traffic flow by hour;
 - . identify a traffic flow problem;
 - . describe the implications of this pattern for the quality of traffic flow.
- 10.3.3 Examine maps showing the principal rail lines, highways and air routes in Canada. (a)
- . Identify the area of Canada with the greatest number of transportation linkages.
 - . Describe the relationship between population distribution and the number of transportation linkages found there.
- 10.3.4 Examine the area code map in your telephone directory. (a)
- . Explain why some area codes are larger than others.
 - . Determine where the area codes tend to cover small areas.
 - . Explain how this pattern relates to efficiency of communications.
- 10.3.5 Define the terms physical-distance, time-distance, and cost-distance. (k)
- 10.3.6 Given the required data for two networks, determine which is the more efficient in terms of (a)
- . time-distance;
 - . cost-distance.

- 10.3.7 Given a case study about Canada's fibre optics system, (a)
- . describe the extent of the system;
 - . explain why it was built;
 - . describe the physical challenges to its construction;
 - . explain why it took the route it did.
- 10.3.8 Given a case study, describe the impact of a new innovation (e.g., containerization, the St. Lawrence Seaway) on transportation in terms of (a)
- . time-distance;
 - . cost-distance.
- 10.3.9 Conduct research on the introduction of new technologies in information transfer (e.g., the facsimile machine).
- . Explain why this new technology was introduced.
 - . Describe its impact on time/distance.

Theme: Connections

Understanding (2.1.10): Linkage networks and how they are fundamental in moving people, goods, and information in Canada's vast environment.

Specific Curriculum Outcome 10.4:

Students will describe conditions which create a need for the movement of goods and services.

Performance Expectations

Students will:

- 10.4.1 Given a map showing Canada's gas and oil pipeline system, (k)
- . identify areas which supply oil or gas;
 - . identify areas where these resources are in demand.
- 10.4.2 Explain why a pipeline system is best for the transfer of oil and gas. (k)
- 10.4.3 Assume that you are sending a facsimile transmission to a friend in another part of Canada. (a)
- . Identify the area of supply.
 - . Identify the area of demand.
 - . Explain how the information is transferred.
- 10.4.4 Canada's Far North has a vast storehouse of natural resources which is in demand in Canadian industry to the south. Explain why this condition is no guarantee that those resources will be developed for shipment south. (a)
- 10.4.5 Write a brief essay explaining why Canada needs a vast transportation and communication system (k)

Theme: Connections

Understanding (2.1.10): Linkage networks and how they are fundamental in moving people, goods, and information in Canada's vast environment.

Specific Curriculum Outcome 10.5:

Students will analyze features of key transportation nodes and corridors in Canada.

Performance Expectations

Students will:

- 10.5.1 Define the term transportation node. (k)
- 10.5.2 Given a case study of a major port (e.g., Montreal, Vancouver), (a)
- . compare it to other major ports in terms of tonnage shipped;
 - . identify the major types of commodities handled there;
 - . identify the major destinations and origins of cargo;
 - . describe the site factors which led to its establishment as a port;
 - . describe the situational factors which contribute to its importance.
- 10.5.3 Given an airlines map, (a)
- . identify the major transportation nodes;
 - . describe how the location of these nodes relates to population distribution in Canada.
- 10.5.4 Given a case study of the St. Lawrence Seaway, (a)
- . explain why it was built;
 - . describe the natural barriers it overcame;
 - . describe the impact on time-distance and cost-distance for goods destined for central Canada.

Theme: Connections

Understanding (2.1.10): Linkage networks and how they are fundamental in moving people, goods, and information in Canada's vast environment.

Specific Curriculum Outcome 10.6:

Students will reflect upon issues related to the movement of goods and services in Canada.

Performance Expectations

Students will:

- 10.6.1 Examine a case study of the development of a new transportation link (e.g., the fixed link between Prince Edward Island and the mainland). Describe (i)
- . the arguments used by opponents to the link;
 - . the arguments used by supporters;
 - . your position on this issue.
- 10.6.2 In an attempt to reduce its financial deficit, the Government of Canada is considering the reduction of subsidies to help users reduce their transportation costs. Describe the possible impact this could have in your area. (a)
- 10.6.3 Given a case study of a change in a transportation (e.g., the curtailment of rail services) to a community, describe the impact on the community in terms of (a)
- . accessibility;
 - . the local economy;
 - . population size.
- 10.6.4 Research newspaper articles on the negative environmental effect of the transportation of a hazardous product. Develop a report to (i)
- . describe the product transported;
 - . identify the source and destination of the product;
 - . explain how the incident or accident occurred;
 - . describe the impact of the incident on the environment and people;
 - . explain how various agencies (e.g., government, environmental groups) responded;
 - . suggest a strategy for reducing the possibility of future incidence of this nature.
- 10.6.5 Given the capacity of computer technology to store and transmit vast amounts of information, assess the positive and negative effects on (i)

- . a student;
- . a consumer;
- . a worker.

Theme: Connections

Understanding (2.1.11): Aspects of Canada's increasing interdependence in the world community.

Specific Curriculum Outcome 11.1:

Students will classify Canada's relationships with the world community.

Performance Expectations

Students will:

- 11.1.1 Define the term formal relationships. (k)
- 11.1.2 Define the term informal relationships. (k)
- 11.1.3 Given a series of statements about Canada's ties with other countries, categorize each one as either formal or informal. (k)
- 11.1.4 Collect newspaper headlines about Canada's formal relationships with the world community. List

each headline in the chart below and indicate the type of formal tie to which it best relates. (a)

Headline	Formal Relationships			
	Political	Military	Economic	Aid

Theme: Connections

Understanding (2.1.11): Aspects of Canada's increasing interdependence in the world community.

Specific Curriculum Outcome 11.2:

Students will analyze features of Canada's political ties to the international community.

Performance Expectations

Students will:

- 11.2.1 Briefly describe the function of Canada's Department of External Affairs. (k)
- 11.2.2 Develop a list of international political issues in the media. Select one which affects Canada and describe the role of External Affairs in it. (a)
- 11.2.3 Given a case study of a sovereignty issue (e.g., Arctic sovereignty, foreign fishing off the Atlantic coast), (a)
 - . identify the central problem;
 - . describe Canada's position;
 - . describe the position of the other country involved;
 - . explain why this issue is (was) difficult to resolve;
 - . if settled, describe the agreement reached.
- 11.2.4 Research a political organization of which Canada is a member (e.g., the Commonwealth, La Francophonie). Write a brief report to (a)
 - . identify the purpose of the organization;
 - . describe the benefits Canada gains from membership;
 - . describe Canada's role in the organization.

Theme: Connections

Understanding (2.1.11): Aspects of Canada's increasing interdependence in the world community.

Specific Curriculum Outcome 11.3:

Students will examine Canada's military role in the world community.

Performance Expectations

Students will:

- 11.3.1 Explain why Canada is often regarded as "an ideal peacekeeper to the world". (k)
- 11.3.2 Given a case study about a military relationship (e.g., NORAD, NATO), (a)
 - . explain why the alliance was formed;
 - . identify the member nations;
 - . describe Canada's role as a member country;
 - . analyze the organization's effectiveness in achieving its overall goal;
 - . explain whether this goal is still necessary.
- 11.3.3 Describe the overall purpose of the UN. (k)
- 11.3.4 Select a UN peacekeeping/peace making mission (e.g., the Middle East; the former Yugoslavia) in which Canadian forces served a role. Assume that you are a journalist who is to develop a feature article on the mission. "File" a report to include: (i)
 - . the location of the action;
 - . why troops are necessary;
 - . risks involved;
 - . daily routines;
 - . the effectiveness of the operation.

Theme: Connections

Understanding (2.1.11): Aspects of Canada's increasing interdependence in the world community.

Specific Curriculum Outcome 11.4:

Students will explore Canada's economic ties with other nations.

Performance Expectations

Students will:

- 11.4.1 Define the term trade. (k)
- 11.4.2 Explain how each of the following factors influence trade among nations. (k)
 - . specialization;
 - . location;
 - . political relations;
 - . wealth.
- 11.4.3 Examine a bar graph showing the value of imports and exports for Canada's twelve top trading partners. (a)
 - . Identify Canada's largest trading partner.
 - . Explain how the factors in item 11.4.2 explain this pattern.
 - . Select a country and explain how specialization is a significant factor in its trade with Canada.
- 11.4.4 Given a map showing the location of Canada's major trading partners, describe (a)
 - . the geographical distribution of these countries;
 - . how the standard of living in these countries likely influences trade with Canada.
- 11.4.6 Given a table showing the value of trade for Canada's top fifteen exports and imports, (a)
 - . compare the export and import totals;
 - . describe the trade balance;
 - . describe the character of Canada's exports and the character of its imports.
- 11.4.7 Distinguish between the terms free trade and protectionism. (k)
- 11.4.8 Describe the views of those who support free trade. (k)

- 11.4.9 Describe the views of opponents of free trade. (k)
- 11.4.10 list protectionist actions which government may use to erect trade barriers. (k)
- 11.4.11 Define the term foreign investment. (k)
- 11.4.12 Explain why it is in Canada's interest to own companies operating in other countries. (k)
- 11.4.13 Given a table showing direct investment into and out of Canada from 1970 to the present, (a)
- . describe the trend in net direct investment;
 - . explain how this can affect the value of the Canadian dollar;
 - . list two strategies which would help ensure a balanced foreign investment picture.

Theme: Connections

Understanding (2.1.11): Aspects of Canada's increasing interdependence in the world community.

Specific Curriculum Outcome 11.5:

Students will examine Canada's role in providing assistance to other countries.

Performance Expectations

Students will:

11.5.1 Given a copy of the charter of the Canadian International Development Agency (CIDA), list four development principles of this agency. (k)

11.5.2 Analyze the following proverb. (a)

Give people fish and you feed them for one day

Teach them to fish and you feed them for life.

. Explain this statement in your own words.

. Explain whether this statement fits the development role of CIDA.

11.5.3 Examine a table indicating Canada's international assistance by country. (a)

. On an outline map of the world according to a legend you have developed, shade in the countries receiving Canadian aid.

. Describe the geographical distribution of the countries receiving the most aid..

Determine if

the

countries

are

shaded

overlap

those

indicated

on the

map in

item

11.4.4.

Explain.

- 11.5.4 Given a case study of a humanitarian assistance project in which Canada is involved, (a)
- . describe its overall purpose;
 - . describe conditions which make this aid necessary;
 - . explain how this project also benefits Canada;
 - . describe the extent to which the project is meeting (or has met) its purpose.
- 11.5.5 Define the term NGO. (k)
- 11.5.6 Research an NGO (e.g., UNICEF, Oxfam) and write a report to describe (a)
- . its purpose;
 - . a project currently in the media;
 - . the need for the project;
 - . the involvement of Canadians.

Theme: Connections

Understanding (2.1.11): Aspects of Canada's increasing interdependence in the world community.

Specific Curriculum Outcome 11.6:

Students will explore issues related to Canada's interdependence with the world community.

Performance Expectations

Students will:

- 11.6.1 Given a case study of a territorial sovereignty issue (e.g., a fisheries dispute), describe (i)
- . Canada's position;
 - . the option which you think Canada should take (or should have taken).
- 11.6.2 Write a letter to the editor of a newspaper to explain your reaction to the following statement; (i)
- . To help reduce its budget deficit, Canada should withdraw from NATO.
- 11.6.3 Canada, Mexico and the United States have concluded the North American Free Trade Agreement. Defend your position on the following statement. (i)
- Canada-Mexico-U.S. free trade benefits Canada.
- 11.6.4 Explore arguments for and against foreign ownership of companies in Canada. Explain whether Canada should encourage or discourage foreign takeovers of Canadian companies. (i)
- 11.6.5 Describe your reaction to each of the following approaches in assisting other countries. (i)
- . In times of worldwide recession, Canada should relax its immigration laws to allow more "economic" refugees to enter this country.
 - . Canada should only assist other countries in times when most Canadians are employed.
- 11.6.6 Some of the developing world countries are unable to repay loans obtained from such developed countries as Canada. As a result, debtor countries find it difficult to improve their economies. Describe the position which you think Canada should take on this issue. (i)

Chapter 4

Instructional Approaches

4.1 Instructional Approaches

A Framework for Social Studies in Education - Navigating Towards the Future (1993) includes a philosophical blueprint for effective instruction in social studies education. This section of the Canadian Geography 1202 curriculum guide highlights the more salient features of the philosophy of instruction in social studies as they apply to the desired instructional environment for this course.

The position is taken that the most effective instructional approach is one which is eclectic in nature. The classroom teacher selects and employs those instructional strategies and methods deemed most appropriate given the needs of the learner, the intended learning outcomes, and the resources available. One cannot be prescriptive in favour of any one teaching method in Canadian Geography 1202 since (1) students differ in interest and ability, and (2) components of the course differ in terms of intent, level of conceptual difficulty, and the relative emphasis on understandings, dispositions, and competencies. The discerning teacher will use a variety of methods in response to a variety of instructional situations.

The history of geographic instruction in schools reflects a strong transmission orientation to teaching. Content was heavily factual and descriptive, and instruction relied upon (1) such direct instructional methods as lecture, didactic questions, and drill, and (2) such independent study methods as homework and assigned questions. Curriculum developers have been drawing attention recently to the need for transactional and transformational orientations in instruction. These approaches deliberately engage the learner in the learning situation through use of (1) such experiential methods as field trips, simulations, games, and surveys, (2) such indirect instructional strategies as problem-solving, case studies, and concept formation, and (3) such interactive instructional methods as debates, brainstorming, discussion, and interviewing.

The underlying rationale for transactional and transformational orientations rests on the following positions:

1. Given the rapidity of change as we approach the end of this century, knowledge deemed to be of most worth will rest less on immutable facts and more on the process of knowing.
2. The process of knowing relies largely upon accessing and organizing information, detecting patterns in it, and arriving at generalizations suggested by the patterns.
3. Transactional and transformational approaches, compared to transmission, are more motivational, and provide greater opportunities for reinforcement, divergent thinking, concept development, learning transfer, decision-making, self-inquiry, and interpersonal development.
4. The incorporation of the transactional and transformational orientation into the instructional environment further allows for the active participation of students as they evaluate the relevance of what they are learning, bring their perspectives and prior learning experiences to the process, and are involved in decisions regarding what they are learning.

In spite of the merits of the transactional and transformational orientations, transmission must not be excluded from instruction in Canadian Geography 1202. Actually, it may be argued that the content of this course reflects a transmission orientation in that it has a conceptual structure as indicated by the program goals, content objectives, and intended learning outcomes. All three orientations, however, come through in the presentation of the intended learning outcomes.

A reference to general curriculum outcome 2.1.7, which focuses on an understanding of processes which account for the increasing importance of the tertiary sector to Canadians, will help to illustrate the need for a judicious balance among the transmission, transactional, and transformational orientations. Such performance expectations as 7.1.1, 7.1.2, 7.1.3, and 7.3.1 consist of basic building blocks of geographic knowledge that students need to acquire in order to engage in the competencies and dispositions needed

to achieve the program goal. The use of direct and independent instructional methods are quite suited to these intended learning outcomes classified as "knowing". Such PEs as 7.1.4, 7.1.5, 7.2.1, 7.2.2, and 7.2.3 require students to apply this knowledge. Integration-level PEs, such as 7.2.7, 7.3.4, and 7.3.5 involve outcomes of a more dispositional nature. The instructional methods used for the "applying" and "integrating" performances should be less didactic and instead rely more on indirect, experiential, and interactive approaches.

In turn, these approaches encourage the development of participatory competencies, thinking competencies, and information-acquisition and utilization competencies as set out in outcomes that require application and integration-level thinking skills. These competencies support those articulated in *A Framework for Social Studies Education*, pp. 23-29.

Since Canadian Geography requires a shift toward the use of instructional approaches which actively engage the student in the learning process, a more detailed treatment of selected methodologies is in order. Appendix A explores the use of field trips, inductive teaching, teacher-questioning, and cooperative learning.

Chapter 5

Evaluation

5.1 General Approaches

The evaluation of student learning is an integral part of the planned instructional cycle. Its intent is to determine if the performance expectations have been achieved, judge the effectiveness of the learning environment in meeting the needs of the learner, and assist in designing future learning situations. Broadly defined, evaluation consists of the interrelated processes of systematically collecting data, detecting patterns in the data, forming judgements about possible implications suggested by these patterns, and making decisions about future actions.

A variety of data may be collected to indicate student progress in the achievement of the performance expectations. Although student performance on teacher-made tests are an important source of data, other sources are equally legitimate. A wide variety of evaluation sources and techniques ensures greater validity and reliability of the process. Data sources may include observations, teacher-student conferences, teacher-parent conferences, and such work samples as seat work, homework, projects, and reports. The data may be systematically collected through use of such techniques as carefully constructed tests, rating scales, checklists, and anecdotal reports.

The data collected will indicate the degree to which students have achieved the performance expectations. The technique selected depends upon the type of performance expectation and the dynamic of the particular instructional environment. Some of the features of the evaluation process described above may be illustrated with reference to program goal 2.1.4 and selected PEs related to it.

PE	Competency	Possible Evaluation Techniques
4.1.1	Thinking: knowing	. Test item requiring simple completion of a statement to show mastery of a definition.
4.1.5	Thinking: applying	. Test item requiring a short essay response to apply a given statement to the farming situation described in a case study provided.
4.2.4	Thinking: applying	. Given a case study of mixed farming, write a brief essay in a test setting to examine features and processes as requested in the item.
4.3.7	Thinking: applying Information acquisition and utilization	. Given a map showing the distribution of growing degree days in Canada and the growing degree days required for selected crops, write a statement in a test setting to show the pattern between these two variables.
4.4.6	Thinking: integrating Participation Information acquisition and utilization	. Students may work in pairs: one to represent the writer, and one to represent a family farm operator. The discussion of the issue will help shape the positions advanced in the letter in the classroom setting. Teacher observation will help monitor interpersonal skills. Students may be selected to describe how they felt about the participatory process. . A test item could present a case study or newspaper article about the impact of agribusiness on a specific family farm. Student is required to present and defend his or her views on what happened.
4.7.5	Thinking: integrating Participation	. In the classroom setting, each student is assigned a role. Use a cooperative learning strategy: bring together students

Information acquisition
and utilization

with the same role to explore the issue; then reconstitute groups with three different roles. Each group then develops a common list of concerns.

PE	Competency	Possible Evaluation Techniques
4.9.2	Thinking: applying	<ul style="list-style-type: none">. Given line graphs showing the number of forestry workers and timber volumes harvested for a specific period, write a statement in a test setting to how the relationship is between the two variables.. Students could be given the same visuals and be asked to test the validity of a statement about the relationship between number of forestry workers and the volume of timber harvested.

5.2 Table of Specifications

The Department of Education document *The Evaluation of Students in the Classroom - A Handbook and Policy Guide* (1990) points to the need for a congruence between the emphasis on product and process in a course and the emphasis on product and process in the evaluation of student learning. In other words, students should be evaluated the way they are taught. A program which relies heavily upon transactional approaches, for example, should not primarily make use of transmissional approaches in evaluating student achievement of course goals.

The following table of specifications lists the eleven major understandings in Canadian Geography 1202 and relates them to the three levels of thinking competencies promoted by the PEs. Its purpose is to facilitate the design of unit (as defined by the content associated with a given understanding) tests and comprehensive examinations. This will help ensure that

- . the understandings are weighted to the degree that they are weighted in the course; and
- . the emphasis upon knowing, applying, and integrating thinking skills reflects their relative emphasis in the course.

CANADIAN GEOGRAPHY 1202: Table of Specifications

	COURSE UNDERSTANDINGS	THINKING COMPETENCIES			TOTALS
		Knowing	Applying	Integrating	
Three	2.1.1 ... land and water forms ...	6	5	2	13
	2.1.2 ... weather and climate ...	6	5	2	13
	2.1.3 ... Canadian ecosystems ...	6	5	2	13
One of	2.1.4 ... resource use on the land ...	5	8	3	16
	2.1.5 ... resource use in the ocean environment ...	5	8	3	16
	2.1.6 ... secondary processing ...	6	6	3	15
Two of	2.1.7 ... tertiary activity ...	6	6	3	15
	2.1.8 ... population distribution and growth ...	6	6	3	15
	2.1.9 ... built environments ...	6	6	3	15
One of	2.1.10 ... linkages in Canada ...	5	7	3	15
	2.1.11 ... interdependence ...	5	7	3	15
	TOTALS	40	42	18	100

Chapter 6

Resources

6.1 Authorized Learning Resources

Print

Canada: Land of Diversity: 3rd Edition. Prentice Hall - Ginn Canada. 1996.

Contact Canada: 2nd Edition. Oxford University Press. 1996

Multimedia

E-Stat CD-Rom, Statistics Canada

6.2 Recommended Professional Resources

Blair, C. L. & Day, E.E.D. & Frid, G.R. 1990. 3rd Edition. *The Canadian Landscape*. Copp, Clarke, & Pittman.

Cartwright, Frazer. 1991. *Geocanada*. Oxford University Press.

Derry, William & Nash, Charles. 1990. *GeoCanada*. McGraw-Hill Ryerson.

Hannell, C. & Harshman, R. & Draper, G. 1992. *Travel & Tourism. A World Regional Geography*. Wiley & Sons.

Howley, R. & Otten, E. 1991. *Urban Toolkit*. Gage Publishing

Matthews, Geoffrey J. 1989. *Nelson Intermediate Atlas*. Nelson Publishing.

Matthews, Geoffrey J. & Morrow, Robert, Jr. 1995. 2nd Edition. *Canada & The World: An Atlas Resource*.

Stanford, Quentin H. 1996. 6th Edition. *Canadian Oxford School Atlas*. Oxford University Press.

Swatridge, Leonard A. & Wright, Ian A. 1995. *Canada: Exploring New Directions*. Fitzhenry & Whiteside Ltd.

The Integrated Atlas: History & Geography of Canada & the World. 1996. Harcourt Brace & Co. Canada.

